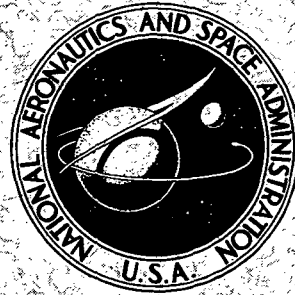


N73-11657

**NASA TECHNICAL
REPORT**



NASA TR R-391

NASA TR R-391

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**MEASUREMENTS OF THE STRUCTURE
AND CIRCULATION OF THE
STRATOSPHERE AND MESOSPHERE, 1970**

*by W. S. Smith, J. S. Theon, D. U. Wright, Jr.,
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION • WASHINGTON, D. C. • NOVEMBER 1972

1. Report No. NASA TR R-391	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Measurements of the Structure and Circulation of the Stratosphere and Mesosphere, 1970		5. Report Date November 1972	
		6. Performing Organization Code	
7. Author(s) W. S. Smith, J. S. Theon, D. U. Wright, Jr., J. F. Casey, and J. J. Horvath		8. Performing Organization Report No. G-1078	
9. Performing Organization Name and Address Goddard Space Flight Center Greenbelt, Maryland 20771		10. Work Unit No.	
		11. Contract or Grant No.	
		13. Type of Report and Period Covered Technical Report	
12. Sponsoring Agency Name and Address National Aeronautics and Space Administration Washington, D.C. 20546		14. Sponsoring Agency Code	
15. Supplementary Notes			
16. Abstract <p>Complete data from a total of 26 meteorological rocket soundings of the stratosphere and mesosphere conducted from Barrow, Alaska; Churchill, Canada; and Wallops Island, Va., are presented. These data consist of temperature, pressure, density, and wind profiles from 16 acoustic grenade soundings that cover the 30- to 90-km altitude range, and temperature, pressure, and density profiles from 10 pitot probe soundings that cover the 25- to 120-km altitude range. Errors for each of the 16 grenade soundings are also included. No analysis of the meteorological significance of the data is attempted.</p>			
17. Key Words (Selected by Author(s)) Stratosphere, Mesosphere, Meteorological observations, Pressure, Density, Wind, Temperature, Acoustic grenade experiments		18. Distribution Statement Unclassified—Unlimited	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unlimited	21. No. of Pages 55	22. Price* \$3.00

*For sale by the National Technical Information Service, Springfield, Virginia 22151.

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MEASUREMENTS OF THE STRUCTURE AND CIRCULATION OF THE STRATOSPHERE AND MESOSPHERE, 1970

by

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INTRODUCTION

During 1970, 16 acoustic grenade and 10 pitot probe soundings of the stratosphere and mesosphere were conducted by the Goddard Space Flight Center and the University of Michigan under contract to GSFC. Launch sites included Barrow, Alaska (71° N); Churchill, Canada (59° N); Wallops Island, Va. (38° N); and Eglin AFB, Fla. (30° N). These soundings were carried out as part of the Research Meteorological Sounding Rocket Program, and were intended to investigate specific phenomena that occur in the stratosphere, mesosphere, and lower thermosphere. To extend the coverage over the widest geographic area and to permit more realistic analyses, the GSFC soundings are coordinated with soundings in other parts of the world whenever possible. The data obtained from these soundings are published here to serve as a basis for further investigation and interpretation of the behavior of the upper atmosphere. No analysis is attempted.

EXPERIMENTAL TECHNIQUES

The acoustic grenade and pitot probe techniques were employed to obtain the data reported here. These techniques are described only briefly because the details of the theory, instrumentation, and data reduction have been published elsewhere (References 1 to 3).

In the grenade technique, explosive charges (grenades) ranging in mass from 0.1 to 1.8 kg are carried aloft in the nosecone of a Nike Cajun sounding rocket. The grenades are ejected and detonated at 2- to 4-km intervals. One version of the payload carries 19 grenades, permitting an average vertical resolution in the data of about 3 km. An improved version carries 31 grenades, permitting the average

vertical data resolution to be reduced to about 2 km. The position of the rocket, and therefore of each explosion, is determined by a Doppler tracking system, a high-precision radar such as the FPQ-6, or both. The time at which each explosion occurs is detected by sensors in the payload and telemetered to the ground. A ground-based array of hot-wire microphones capable of responding to frequencies in the 4-Hz range is used to detect and record the arrivals of the sound waves generated by the exploding grenades. The measured experimental parameters are the times and positions of the grenade explosions and the arrival times of the sound waves at the ground-based microphones.

The elevation and azimuth angles of the normal to each arriving spherical sound wavefront are computed by applying a least-squares fit to the arrival times at the various microphones. Each wavefront is then analytically retraced along its path of propagation through the atmosphere by means of Snell's law. Wind and temperature data from balloonsondes and rocketsondes obtained near the time of the grenade sounding are introduced to account for their influence in retracing the path of the sound wave from the ground to the level of the first explosion; above this altitude the results of the grenade sounding itself are used for each succeeding explosion. The origin of the sound wave as determined by ray tracing is compared with the known position of the explosion, and the horizontal difference by which the sound wave has been displaced from one explosion to the next is a measure of the average wind velocity in the layer bounded by the two explosions. The average speed of sound, and hence the average temperature of the atmosphere between adjacent explosions, may also be determined. The temperature and wind profiles consist of discrete points, each representing the average temperature and average wind, respectively, of the vertically stacked horizontal layers between consecutive explosions. The pressure profile is derived from the temperature profile, using the pressure measured by an accompanying balloonsonde as a reference value. Pressure is then calculated as a function of altitude from the barometric equation (a form of the hydrostatic equation) by integrating the pressure upward over the temperature profile. The density is then calculated as a function of altitude from the temperature and pressure using the equation of state (Reference 4).

In the pitot probe technique, a radioactive ionization gage and a hot-filament gage mounted in the forward tip of the payload measure impact pressure, which is related to ambient density, as the rocket ascends. The gage outputs are telemetered to ground-based receiving and recording equipment. The trajectory of the rocket is provided by Doppler tracking, radar tracking, or both, to determine the altitude and velocity of the rocket. The measured experimental parameters are ram pressure and the velocity, position, and orientation of the payload. Ram pressure is related to density by the Rayleigh equation and the equation of state in the continuum region, and by a modified thermal transpiration equation in the free-molecular-flow region. The temperature profile is computed by integrating the density profile with altitude using a form of the hydrostatic equation.

OBJECTIVES

The launch sites of Barrow, Churchill, Wallops, and Eglin represent arctic, subarctic, temperate, and subtropical locations, respectively. The data include five soundings conducted from three sites during a minor stratospheric warming in January; three closely spaced soundings launched from Churchill to study internal gravity wave propagation; two special high-altitude grenade payloads, each containing six 3.6 kg grenades and one 5.5 kg grenade launched from Wallops in January to test the feasibility of extending the technique to higher altitudes; a pair of soundings launched from Barrow 2

min apart in opposite directions to examine horizontal gradients of wind and structure; a pair of soundings launched from Barrow 15 min apart to examine temporal variability; five soundings launched from Wallops to study the solar eclipse in March; six soundings conducted from Wallops during the summer for comparison with simultaneous temperature (radiance) measurements from satellite instruments; and a sounding launched from Eglin as part of a comprehensive experiment designed by the Air Force Cambridge Research Laboratories to study winds, diffusion, turbulence, composition (neutral and ion), and structure (density, pressure, and temperature).

RESULTS

The results of the soundings are given in Tables 1 to 26. In the grenade results, the directly measured parameters (temperature and wind) are tabulated on the left-hand page of each table. Values of interpolated temperature, computed pressure, pressure deviation from the 1962 U.S. Standard Atmosphere (Reference 5), computed density, and density deviation from standard are tabulated on the right-hand page of each table as functions of geometric altitude. The wind components, interpolated at 2-km intervals, are tabulated on the left-hand page. Note that Tables 8 and 9 are exceptions to this format because of their abbreviated altitude coverage. The pitot probe results give computed temperature, computed pressure, pressure deviation from the standard atmosphere, measured density, and density deviation from the standard atmosphere. Balloonsonde and rocketsonde observations that accompanied the sounding are also plotted to provide an essentially continuous profile of temperature (and wind) from the surface to the mesopause.

ERROR ANALYSIS

The errors contributing to the inaccuracy of the grenade technique can be classified according to their source (Reference 6) as errors inherent in the experimental measurements and errors resulting from approximations in the analytical solution. The latter errors result from formation of the least-squares operational equations, the deviation of the model atmosphere from the true atmosphere, and the finite amplitude propagation correction. For example, the atmosphere is assumed to have negligible vertical motion and to be horizontally homogeneous in the volume of air encompassing the entire experiment. These analytical approximations are believed to be second-order effects of negligible quantities or systematic errors that are effectively removed in almost all cases.

Experimental measurement uncertainties consist of (1) surveying errors in determining the location of each microphone in the array, (2) determination of the grenade burst time and position, and (3) determination of the individual time of arrival for the sound wave as it crosses each microphone in the array. The uncertainty in the measurement of arrival times constitutes the major source of error in the grenade-determined temperatures and winds. (An exception to this case is discussed in Reference 7.)

If the arrival time for the sound wave from a grenade explosion is measured on more than three microphones in the array, an over determined sound-ranging solution exists. A least-squares analysis of this solution yields the standard error of the direction cosines and the traveltime for the wave from each grenade. These standard errors of surface values can be propagated through the ray-tracing analysis to yield standard errors in the values of temperature and wind for each layer bounded by grenade pairs (Reference 6).

The tabulations of grenade data do not include error estimates for the pressure and density. These quantities are in error because of both the uncertainty in the reference pressure provided by the support balloonsonde and also because of the uncertainty in the grenade-determined temperature profile. The barometric equation can be used to compute the effect of these uncertainties on the pressure and density, an exercise left for the reader.

In the pitot probe data, the experimental errors in the density measurement are estimated not to exceed ± 1 percent below 84-km altitude, ± 4 percent between 84- and 100-km altitude, and ± 10 percent above 100-km altitude. Also, all temperatures given are the molecular scale temperatures and assume a mean molecular weight of 28.9644.

ACKNOWLEDGMENTS

The authors gratefully acknowledge the contributions of the Superior Engineering Co. for design, fabrication, and prelaunch checkout of the grenade payloads; New Mexico State University personnel for the installation and operation of the Doppler tracking and telemetry systems on the payloads and the processing of trajectory data; and the NASA Wallops Station, the Naval Arctic Research Laboratory, the Churchill Research Range, and the Eglin AFB personnel for the excellent range support they provided.

Goddard Space Flight Center
National Aeronautics and Space Administration
Greenbelt, Maryland, February 16, 1972
607-12-01-01-51

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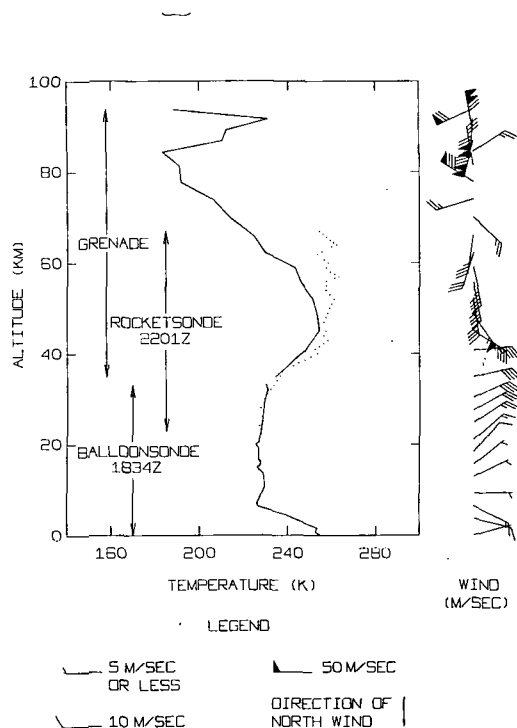
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Listing and index of 1970 soundings.

Table	Date	Time (GMT)	Location	Experiment	Page
1	Jan. 5	2130	Churchill	Grenade	6
2	Jan. 5	2224	Wallops	Grenade	8
3	Jan. 10	0100	Wallops	Grenade	10
4	Jan. 10	1111	Barrow	Grenade	12
5	Jan. 13	2223	Churchill	Grenade	14
6	Jan. 13	2351	Churchill	Pitot	16
7	Jan. 14	0135	Churchill	Grenade	18
8	Jan. 14	1147	Wallops	Grenade	20
9	Jan. 14	1723	Wallops	Grenade	21
10	Jan. 14	1755	Wallops	Grenade	22
11	Jan. 29	1719	Barrow	Grenade	24
12	Jan. 29	1721	Barrow	Grenade	26
13	Feb. 3	1340	Barrow	Grenade	28
14	Feb. 3	1355	Barrow	Grenade	30
15	Mar. 6	1824	Wallops	Pitot	32
16	Mar. 7	1759	Wallops	Pitot	34
17	Mar. 7	1826	Wallops	Pitot	36
18	Mar. 7	1841	Wallops	Pitot	38
19	Mar. 8	1725	Wallops	Pitot	40
20	June 22	1600	Wallops	Grenade	42
21	June 25	1537	Wallops	Grenade	44
22	Aug. 3	1609	Wallops	Pitot	46
23	Sept. 17	1542	Wallops	Grenade	48
24	Sept. 17	1558	Wallops	Pitot	50
25	Sept. 21	1614	Wallops	Pitot	52
26	Nov. 20	2329	Eglin AFB	Pitot	54

Table 1—Rocket grenade data, Churchill, Jan. 5, 1970, 2130 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
34863.0	234.4	0.6	39.6	1.3	77.1	2.1
40684.4	248.3	0.5	43.9	1.4	84.3	2.0
45066.5	254.4	1.1	44.9	3.5	121.9	4.6
48691.2	253.4	1.9	53.2	6.5	145.2	6.8
52218.6	251.3	2.3	37.6	8.4	171.1	12.3
55655.8	246.2	2.1	42.8	8.3	168.2	10.6
59009.2	243.3	1.5	44.3	6.6	167.6	8.3
62275.7	229.3	1.5	30.6	7.3	198.2	13.2
65965.6	224.4	1.1	36.6	5.9	188.5	8.9
70045.9	213.6	0.7	25.3	4.4	133.9	10.0
73966.1	206.2	2.2	27.2	14.7	253.3	30.7
77751.9	191.6	2.1	78.2	15.2	301.9	11.4
81378.5	190.9	1.0	28.5	9.6	351.6	19.5
84410.5	183.5	1.9	24.8	20.6	57.5	47.6
86913.2	210.6	5.5	135.7	51.1	195.3	20.7
89319.4	212.7	7.0	119.6	63.7	349.4	31.4
91634.2	231.1	5.3	119.3	50.9	185.2	23.9
93804.9	188.6	2.9	70.2	31.2	245.6	24.9



WIND COMPONENTS
M/SEC

ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
36000	-7.9	-39.6
38000	-6.3	-41.4
40000	-4.6	-43.1
42000	4.1	-42.0
44000	16.9	-39.4
46000	28.9	-36.1
48000	39.8	-31.7
50000	41.3	-21.2
52000	38.1	-8.4
54000	39.7	-7.3
56000	42.0	-8.7
58000	42.9	-9.2
60000	39.0	-3.6
62000	31.1	7.0
64000	32.4	7.6
66000	34.5	4.1
68000	26.9	-6.3
70000	18.2	-14.0
72000	12.7	3.8
74000	4.9	26.3
76000	-18.6	47.7
78000	-38.1	58.2
80000	-33.2	27.8
82000	-25.1	-0.6
84000	-10.7	-14.8
86000	77.9	15.1
88000	18.6	29.5
90000	-42.8	18.6
92000	89.2	22.7

Table 1—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
35000	234.7	0.604E 03	5.2	0.897E-02	6.0
36000	237.1	0.523E 03	5.0	0.769E-02	5.9
37000	239.5	0.453E 03	4.6	0.659E-02	5.7
38000	241.9	0.392E 03	4.0	0.564E-02	5.2
39000	244.3	0.342E 03	4.0	0.487E-02	5.4
40000	246.7	0.298E 03	4.0	0.421E-02	5.5
41000	248.7	0.260E 03	3.8	0.364E-02	5.6
42000	250.1	0.227E 03	3.4	0.316E-02	5.7
43000	251.5	0.198E 03	2.8	0.275E-02	5.8
44000	252.9	0.173E 03	2.5	0.239E-02	5.9
45000	254.3	0.152E 03	2.1	0.208E-02	6.0
46000	254.1	0.133E 03	1.5	0.182E-02	6.6
47000	253.9	0.116E 03	0.7	0.160E-02	7.0
48000	253.6	0.102E 03	-0.0	0.140E-02	6.6
49000	253.2	0.895E 02	-0.8	0.123E-02	5.8
50000	252.6	0.783E 02	-1.7	0.108E-02	5.2
51000	252.0	0.686E 02	-2.6	0.948E-03	4.5
52000	251.4	0.600E 02	-3.5	0.831E-03	3.7
53000	250.1	0.524E 02	-4.4	0.730E-03	2.9
54000	248.6	0.459E 02	-5.3	0.643E-03	1.8
55000	247.2	0.400E 02	-6.3	0.564E-03	0.6
56000	245.9	0.349E 02	-7.2	0.494E-03	-0.5
57000	245.0	0.304E 02	-8.0	0.433E-03	-1.7
58000	244.1	0.265E 02	-8.8	0.379E-03	-3.0
59000	243.3	0.231E 02	-9.5	0.331E-03	-4.1
60000	239.0	0.201E 02	-10.2	0.293E-03	-3.9
61000	234.8	0.175E 02	-11.0	0.259E-03	-3.8
62000	230.5	0.151E 02	-12.2	0.228E-03	-4.4
63000	228.3	0.130E 02	-13.2	0.199E-03	-6.1
64000	227.0	0.112E 02	-14.1	0.173E-03	-8.0
65000	225.7	0.972E 01	-15.0	0.150E-03	-9.9
66000	224.3	0.837E 01	-15.7	0.130E-03	-11.5
67000	221.6	0.721E 01	-16.2	0.113E-03	-12.5
68000	219.0	0.621E 01	-16.4	0.988E-04	-13.2
69000	216.3	0.531E 01	-17.1	0.855E-04	-14.4
70000	213.7	0.454E 01	-17.6	0.740E-04	-15.3
71000	211.8	0.388E 01	-17.9	0.639E-04	-16.3
72000	209.9	0.332E 01	-17.9	0.551E-04	-17.1
73000	208.0	0.282E 01	-18.1	0.473E-04	-18.2
74000	206.1	0.240E 01	-18.1	0.406E-04	-18.9
75000	202.3	0.204E 01	-17.8	0.352E-04	-18.7
76000	198.4	0.173E 01	-17.4	0.304E-04	-18.3
77000	194.5	0.145E 01	-17.6	0.261E-04	-18.6
78000	191.6	0.122E 01	-17.5	0.222E-04	-18.9
79000	191.4	0.103E 01	-17.1	0.187E-04	-20.1
80000	191.2	0.865E 00	-16.5	0.157E-04	-21.1
81000	191.0	0.726E 00	-15.6	0.132E-04	-20.2
82000	189.4	0.610E 00	-14.8	0.112E-04	-18.7
83000	187.0	0.512E 00	-13.9	0.955E-05	-16.9
84000	184.5	0.428E 00	-13.6	0.808E-05	-15.4
85000	189.9	0.356E 00	-13.5	0.654E-05	-17.7
86000	200.7	0.300E 00	-12.5	0.520E-05	-21.3
87000	210.7	0.256E 00	-10.2	0.423E-05	-23.0
88000	211.5	0.218E 00	-7.8	0.360E-05	-21.3
89000	212.4	0.187E 00	-5.3	0.306E-05	-19.4
90000	218.1	0.159E 00	-2.7	0.255E-05	-19.4
91000	226.1	0.137E 00	0.5	0.212E-05	-18.3
92000	223.9	0.119E 00	4.3	0.185E-05	-13.0
93000	204.4	0.102E 00	6.8	0.174E-05	-0.8

Table 2—Rocket grenade data, Wallops Island, Jan. 5, 1970, 2224 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
37085.5	252.7	0.6	31.4	0.5	243.1	1.9
43278.9	276.5	1.1	15.4	1.2	288.9	6.4
47950.3	273.4	1.3	11.8	1.5	278.7	11.8
51841.6	259.9	1.0	0.9	2.1	156.1	73.9
55628.0	254.6	0.8	8.9	1.8	178.0	6.3
59319.5	234.0	0.6	12.9	1.7	174.9	3.9
62929.7	222.5	0.5	12.8	0.7	75.0	6.7
66453.2	215.5	0.4	6.8	1.2	125.0	10.3
70427.4	208.3	0.3	15.6	0.9	293.5	4.0
74830.0	200.3	0.4	36.2	1.4	307.2	2.1
79077.7	202.0	0.5	39.2	2.1	334.4	1.7
83183.8	208.5	0.7	43.0	1.4	68.8	3.3
87136.1	199.0	0.8	62.7	2.9	151.3	1.7
90452.9	198.4	1.3	63.7	5.1	174.3	2.7
93176.5	191.0	1.7	67.7	4.9	229.5	5.8
95819.2	175.5	1.5	67.3	4.4	233.4	5.9
98403.0	251.6	2.9	426.8	8.5	140.8	0.9

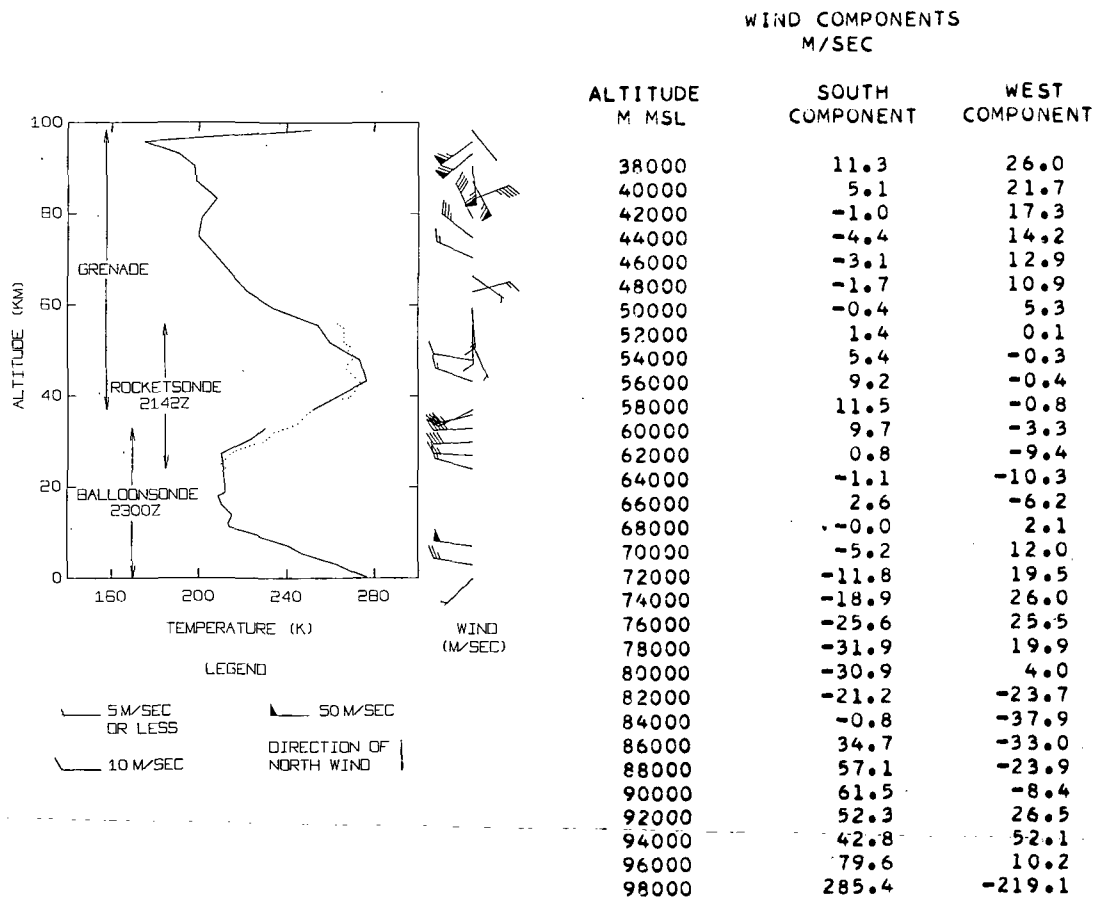
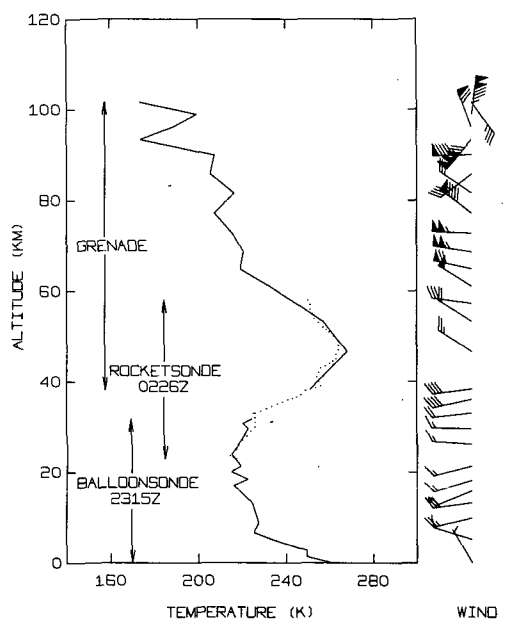


Table 2—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
38000	256.2	0.363E 03	-3.5	0.494E-02	-7.8
39000	260.1	0.318E 03	-3.2	0.426E-02	-7.8
40000	263.9	0.278E 03	-3.0	0.367E-02	-8.0
41000	267.8	0.244E 03	-2.4	0.318E-02	-7.8
42000	271.6	0.216E 03	-1.4	0.278E-02	-7.1
43000	275.5	0.191E 03	-0.5	0.242E-02	-6.6
44000	276.1	0.169E 03	0.2	0.214E-02	-5.0
45000	275.4	0.150E 03	0.9	0.190E-02	-3.1
46000	274.7	0.133E 03	1.4	0.168E-02	-1.4
47000	274.0	0.117E 03	1.6	0.149E-02	0.0
48000	273.2	0.104E 03	1.8	0.132E-02	0.8
49000	269.7	0.921E 02	1.9	0.118E-02	2.2
50000	266.3	0.814E 02	2.0	0.106E-02	3.7
51000	262.8	0.715E 02	1.5	0.948E-03	4.5
52000	259.7	0.628E 02	1.0	0.843E-03	5.2
53000	258.3	0.552E 02	0.5	0.745E-03	4.9
54000	256.9	0.485E 02	0.1	0.658E-03	4.2
55000	255.5	0.425E 02	-0.4	0.580E-03	3.4
56000	252.5	0.372E 02	-0.9	0.514E-03	3.3
57000	247.0	0.326E 02	-1.3	0.461E-03	4.5
58000	241.4	0.284E 02	-2.2	0.411E-03	5.1
59000	235.8	0.246E 02	-3.4	0.354E-03	5.4
60000	231.9	0.214E 02	-4.7	0.321E-03	5.0
61000	228.7	0.185E 02	-5.7	0.282E-03	4.5
62000	225.5	0.159E 02	-7.3	0.246E-03	3.1
63000	222.4	0.137E 02	-8.8	0.215E-03	1.3
64000	220.4	0.118E 02	-10.0	0.186E-03	-0.7
65000	218.4	0.101E 02	-11.2	0.162E-03	-2.7
66000	216.4	0.870E 01	-12.4	0.140E-03	-4.8
67000	214.5	0.745E 01	-13.4	0.120E-03	-6.6
68000	212.7	0.638E 01	-14.2	0.104E-03	-8.3
69000	210.9	0.544E 01	-15.2	0.898E-04	-10.1
70000	209.0	0.463E 01	-16.0	0.772E-04	-11.7
71000	207.2	0.394E 01	-16.6	0.663E-04	-13.1
72000	205.4	0.336E 01	-16.9	0.570E-04	-14.3
73000	203.6	0.285E 01	-17.1	0.489E-04	-15.4
74000	201.8	0.242E 01	-17.5	0.417E-04	-16.6
75000	200.3	0.205E 01	-17.6	0.356E-04	-17.7
76000	200.7	0.173E 01	-17.5	0.301E-04	-19.3
77000	201.1	0.146E 01	-17.1	0.254E-04	-20.7
78000	201.5	0.124E 01	-16.2	0.215E-04	-21.6
79000	201.9	0.105E 01	-15.0	0.182E-04	-22.3
80000	203.4	0.896E 00	-13.5	0.153E-04	-23.2
81000	205.0	0.750E 00	-11.8	0.129E-04	-22.2
82000	206.6	0.647E 00	-9.6	0.109E-04	-21.0
83000	208.2	0.552E 00	-7.3	0.923E-05	-19.6
84000	206.5	0.470E 00	-5.0	0.793E-05	-16.9
85000	204.1	0.401E 00	-2.6	0.684E-05	-13.8
86000	201.7	0.340E 00	-0.8	0.587E-05	-11.2
87000	199.3	0.287E 00	0.8	0.503E-05	-8.5
88000	198.8	0.243E 00	2.6	0.426E-05	-6.7
89000	198.6	0.206E 00	4.3	0.361E-05	-5.0
90000	198.5	0.174E 00	6.1	0.306E-05	-3.3
91000	196.9	0.147E 00	7.7	0.261E-05	0.5
92000	194.2	0.124E 00	8.9	0.223E-05	4.7
93000	191.4	0.104E 00	9.3	0.190E-05	8.2
94000	186.1	0.882E-01	9.3	0.165E-05	13.1
95000	180.3	0.736E-01	8.2	0.142E-05	17.4
96000	180.8	0.609E-01	6.0	0.117E-05	16.4
97000	210.3	0.504E-01	3.5	0.835E-06	-0.6
98000	239.7	0.439E-01	6.2	0.638E-06	-9.3

Table 3—Rocket grenade data, Wallops Island, Jan. 10, 1970, 0100 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
38290.1	251.5	0.2	41.2	0.2	261.8	0.8
46614.1	268.3	0.1	26.2	0.4	303.2	0.9
53334.2	257.4	0.5	22.2	1.3	302.5	3.7
57234.1	245.4	0.6	30.9	1.1	277.3	3.7
61040.6	233.0	0.5	49.6	1.5	302.3	1.8
64862.0	219.3	0.4	69.7	0.9	281.7	1.2
68599.7	220.8	0.4	103.2	0.8	278.2	0.8
72683.3	215.8	0.5	106.1	1.2	272.0	1.1
77203.4	207.6	0.8	90.6	2.7	307.4	1.5
81566.9	216.6	0.9	27.4	2.8	304.4	5.9
85811.4	205.7	1.0	46.8	2.6	231.7	4.7
89958.6	207.6	1.1	93.9	2.4	268.4	2.8
93433.6	174.3	1.4	169.1	4.9	219.5	1.9
96248.4	189.4	1.8	71.3	8.2	339.9	3.2
98984.1	199.6	2.2	134.5	9.2	8.3	2.1
101638.6	173.9	2.2	36.4	9.5	143.3	10.1



WIND COMPONENTS
M/SEC

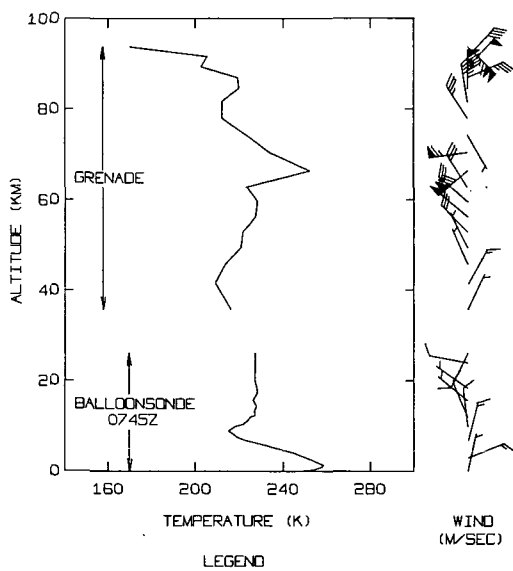
ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
40000	1.6	36.9
42000	-3.1	32.4
44000	-8.0	27.8
46000	-12.7	23.4
48000	-13.8	21.2
50000	-13.1	20.3
52000	-12.4	19.3
54000	-10.5	20.8
56000	-6.4	26.9
58000	-8.6	32.9
60000	-20.4	38.8
62000	-23.4	48.5
64000	-16.9	62.3
66000	-14.3	78.6
68000	-14.5	96.4
70000	-11.0	103.5
72000	-6.0	105.2
74000	-18.7	96.1
76000	-41.5	81.0
78000	-47.7	62.8
80000	-29.7	40.3
82000	-10.8	25.2
84000	9.9	30.7
86000	25.0	41.1
88000	15.0	66.9
90000	13.9	91.8
92000	77.6	102.0
94000	85.5	89.4
96000	-43.1	33.7
98000	-109.3	-3.6
100000	-70.9	-20.3

Table 3—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
39000	252.9	0.310E 03	-5.5	0.427E-02	-7.5
40000	254.9	0.271E 03	-5.4	0.370E-02	-7.1
41000	256.9	0.237E 03	-5.4	0.321E-02	-6.8
42000	259.0	0.207E 03	-5.4	0.279E-02	-6.6
43000	261.0	0.183E 03	-4.9	0.244E-02	-5.8
44000	263.0	0.161E 03	-4.5	0.214E-02	-5.1
45000	265.0	0.142E 03	-4.3	0.187E-02	-4.6
46000	267.0	0.125E 03	-4.1	0.164E-02	-4.2
47000	267.7	0.111E 03	-4.1	0.144E-02	-3.4
48000	266.0	0.979E 02	-4.2	0.128E-02	-2.6
49000	264.4	0.864E 02	-4.3	0.113E-02	-2.1
50000	262.8	0.762E 02	-4.4	0.101E-02	-1.6
51000	261.2	0.672E 02	-4.5	0.897E-03	-1.0
52000	259.6	0.591E 02	-4.9	0.793E-03	-0.8
53000	258.0	0.519E 02	-5.5	0.701E-03	-1.2
54000	255.4	0.455E 02	-6.0	0.621E-03	-1.5
55000	252.3	0.400E 02	-6.4	0.552E-03	-1.5
56000	249.2	0.349E 02	-7.1	0.488E-03	-1.8
57000	246.2	0.305E 02	-7.9	0.431E-03	-2.1
58000	243.0	0.266E 02	-8.6	0.381E-03	-2.4
59000	239.7	0.232E 02	-9.2	0.337E-03	-2.4
60000	236.4	0.201E 02	-10.3	0.296E-03	-3.0
61000	233.2	0.174E 02	-11.4	0.260E-03	-3.6
62000	229.6	0.151E 02	-12.4	0.229E-03	-4.2
63000	226.0	0.130E 02	-13.3	0.201E-03	-5.1
64000	222.4	0.112E 02	-14.6	0.175E-03	-6.7
65000	219.3	0.963E 01	-15.8	0.153E-03	-8.2
66000	219.7	0.827E 01	-16.7	0.131E-03	-10.8
67000	220.2	0.710E 01	-17.5	0.112E-03	-13.2
68000	220.6	0.610E 01	-17.9	0.964E-04	-15.4
69000	220.3	0.524E 01	-18.2	0.829E-04	-17.0
70000	219.1	0.451E 01	-18.2	0.717E-04	-18.0
71000	217.9	0.387E 01	-18.2	0.618E-04	-19.0
72000	216.6	0.331E 01	-18.1	0.533E-04	-19.9
73000	215.2	0.284E 01	-17.7	0.459E-04	-20.5
74000	213.4	0.243E 01	-17.1	0.397E-04	-20.7
75000	211.6	0.208E 01	-16.2	0.343E-04	-20.7
76000	209.8	0.177E 01	-15.5	0.294E-04	-21.0
77000	208.0	0.151E 01	-14.6	0.253E-04	-21.0
78000	209.3	0.128E 01	-13.3	0.214E-04	-21.9
79000	211.3	0.109E 01	-11.7	0.180E-04	-22.9
80000	213.4	0.939E 00	-9.4	0.153E-04	-23.3
81000	215.5	0.805E 00	-6.5	0.130E-04	-21.6
82000	215.5	0.690E 00	-3.6	0.111E-04	-19.2
83000	212.9	0.592E 00	-0.6	0.969E-05	-15.7
84000	210.4	0.506E 00	2.2	0.839E-05	-12.2
85000	207.8	0.431E 00	4.5	0.723E-05	-9.1
86000	205.8	0.367E 00	6.9	0.621E-05	-6.1
87000	206.2	0.312E 00	9.4	0.527E-05	-4.1
88000	206.7	0.265E 00	11.9	0.447E-05	-2.1
89000	207.1	0.226E 00	14.6	0.380E-05	-0.0
90000	207.2	0.193E 00	17.4	0.324E-05	2.3
91000	197.6	0.164E 00	20.1	0.290E-05	11.6
92000	188.0	0.140E 00	22.5	0.259E-05	21.6
93000	178.4	0.116E 00	20.8	0.226E-05	28.4
94000	177.3	0.959E-01	18.8	0.188E-05	29.1
95000	182.7	0.794E-01	16.8	0.151E-05	25.1
96000	188.1	0.667E-01	16.0	0.123E-05	22.6
97000	192.2	0.560E-01	15.0	0.101E-05	20.6
98000	195.9	0.472E-01	14.0	0.839E-06	19.1
99000	199.5	0.399E-01	13.5	0.698E-06	18.1
100000	189.8	0.339E-01	12.6	0.622E-06	25.0
101000	180.1	0.282E-01	9.7	0.546E-06	31.3

Table 4—Rocket grenade data, Barrow, Jan. 10, 1970, 1111 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
35765.7	216.5	0.3	2.3	1.4	24.7	30.4
41493.9	209.5	0.6	14.1	2.7	28.2	10.1
45808.0	214.3	0.8	2.3	3.2	336.0	78.7
49398.9	221.2	1.1	4.3	4.6	333.3	61.0
52885.3	222.1	1.3	28.6	5.2	315.4	11.0
56297.2	227.8	1.0	27.1	3.5	309.4	8.0
59591.6	228.5	0.7	28.0	2.4	311.1	5.4
62795.7	223.5	1.0	27.6	3.7	327.7	7.8
66426.4	252.6	4.2	127.5	13.5	230.5	5.3
70439.0	234.1	3.9	67.4	12.2	261.9	10.4
74294.1	223.4	3.6	4.8	11.1	150.7	134.9
78023.4	212.5	6.6	34.9	21.0	326.4	35.3
81575.5	212.5	7.4	39.5	24.1	350.3	33.5
84526.0	220.3	9.1	92.6	25.5	0.0	14.8
86962.5	219.5	20.4	35.7	62.1	66.4	101.8
89314.2	203.2	24.7	50.7	84.3	42.2	90.6
91571.3	206.0	28.6	38.4	97.7	42.1	137.7
93672.4	170.2	21.6	116.6	81.3	134.3	44.9



LEGEND

— 5 M/SEC OR LESS — 50 M/SEC

— 10 M/SEC DIRECTION OF NORTH WIND

WIND COMPONENTS
M/SEC

ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
36000	-2.5	-1.2
38000	-6.1	-3.2
40000	-9.7	-5.1
42000	-10.9	-5.6
44000	-6.4	-2.2
46000	-2.7	0.7
48000	-3.2	1.5
50000	-6.9	5.2
52000	-16.1	15.4
54000	-19.3	20.3
56000	-17.6	20.8
58000	-17.8	21.0
60000	-19.1	20.1
62000	-21.8	16.5
64000	11.2	42.5
66000	64.9	86.0
68000	52.9	86.0
70000	18.5	69.4
72000	7.3	38.7
74000	3.6	5.8
76000	-11.0	7.5
78000	-27.4	16.9
80000	-34.6	12.2
82000	-47.9	5.7
84000	-80.2	0.5
86000	-45.2	-19.8
88000	-24.5	-33.3
90000	-34.5	-31.5
92000	-2.1	-40.1

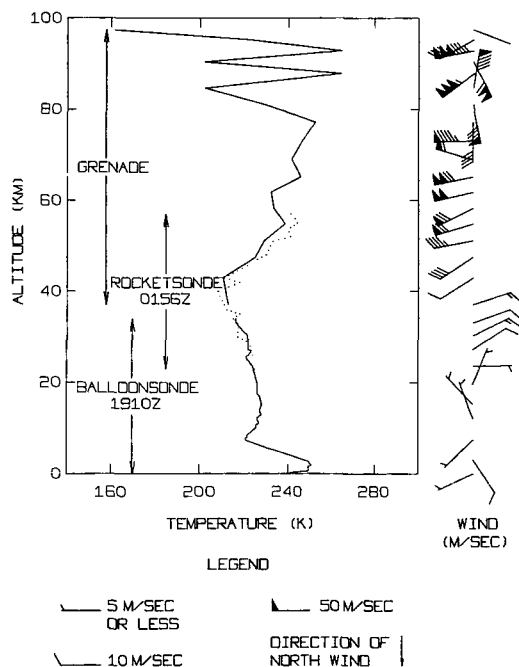
Table 4—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
36000	216.2	0.483E 03	-3.1	0.778E-02	7.2
37000	215.0	0.413E 03	-4.6	0.669E-02	7.3
38000	213.8	0.353E 03	-6.2	0.575E-02	7.2
39000	212.5	0.302E 03	-8.0	0.495E-02	7.0
40000	211.3	0.257E 03	-10.4	0.423E-02	6.0
41000	210.1	0.219E 03	-12.8	0.362E-02	5.0
42000	210.1	0.186E 03	-15.3	0.308E-02	3.1
43000	211.2	0.158E 03	-17.8	0.261E-02	0.6
44000	212.3	0.134E 03	-20.3	0.221E-02	-1.9
45000	213.4	0.115E 03	-22.6	0.188E-02	-4.2
46000	214.6	0.985E 02	-24.9	0.159E-02	-6.7
47000	216.6	0.841E 02	-27.3	0.135E-02	-9.5
48000	218.5	0.720E 02	-29.5	0.114E-02	-12.8
49000	220.4	0.618E 02	-31.5	0.977E-03	-15.9
50000	221.4	0.531E 02	-33.4	0.835E-03	-18.6
51000	221.6	0.456E 02	-35.2	0.716E-03	-20.9
52000	221.9	0.391E 02	-37.0	0.615E-03	-23.1
53000	222.3	0.336E 02	-38.7	0.527E-03	-25.7
54000	224.0	0.289E 02	-40.3	0.450E-03	-28.7
55000	225.7	0.249E 02	-41.7	0.384E-03	-31.4
56000	227.4	0.214E 02	-42.9	0.329E-03	-33.8
57000	228.0	0.185E 02	-44.0	0.283E-03	-35.7
58000	228.2	0.160E 02	-45.0	0.244E-03	-37.5
59000	228.4	0.138E 02	-46.0	0.210E-03	-39.0
60000	227.9	0.119E 02	-46.8	0.182E-03	-40.4
61000	226.3	0.102E 02	-47.7	0.158E-03	-41.3
62000	224.7	0.886E 01	-48.5	0.137E-03	-42.5
63000	225.1	0.763E 01	-49.3	0.118E-03	-44.4
64000	233.1	0.656E 01	-50.0	0.981E-04	-47.9
65000	241.1	0.571E 01	-50.1	0.825E-04	-50.4
66000	249.2	0.500E 01	-49.6	0.699E-04	-52.4
67000	249.9	0.438E 01	-49.1	0.610E-04	-52.8
68000	245.3	0.383E 01	-48.4	0.544E-04	-52.2
69000	240.7	0.334E 01	-47.9	0.483E-04	-51.6
70000	236.1	0.289E 01	-47.5	0.427E-04	-51.1
71000	232.6	0.251E 01	-46.9	0.376E-04	-50.8
72000	229.8	0.217E 01	-46.2	0.329E-04	-50.4
73000	227.0	0.187E 01	-45.5	0.288E-04	-50.1
74000	224.2	0.161E 01	-44.9	0.251E-04	-49.8
75000	221.3	0.139E 01	-44.0	0.219E-04	-49.4
76000	218.4	0.119E 01	-43.0	0.191E-04	-48.7
77000	215.5	0.102E 01	-42.1	0.165E-04	-48.3
78000	212.6	0.877E 00	-41.0	0.143E-04	-47.7
79000	212.5	0.749E 00	-39.7	0.122E-04	-47.6
80000	212.5	0.640E 00	-38.2	0.105E-04	-47.4
81000	212.5	0.547E 00	-36.4	0.897E-05	-45.9
82000	213.6	0.468E 00	-34.7	0.763E-05	-44.7
83000	216.3	0.400E 00	-32.8	0.644E-05	-43.9
84000	218.9	0.343E 00	-30.7	0.546E-05	-42.8
85000	220.1	0.295E 00	-28.4	0.467E-05	-41.2
86000	219.8	0.253E 00	-26.0	0.402E-05	-39.2
87000	219.3	0.218E 00	-23.6	0.346E-05	-37.0
88000	212.3	0.187E 00	-21.1	0.307E-05	-32.8
89000	205.4	0.159E 00	-19.3	0.270E-05	-29.0
90000	204.0	0.135E 00	-17.7	0.230E-05	-27.1
91000	205.3	0.115E 00	-16.0	0.195E-05	-24.9
92000	198.7	0.978E-01	-14.5	0.171E-05	-19.7
93000	181.6	0.823E-01	-14.1	0.157E-05	-10.4

Table 5—Rocket grenade data, Churchill, Jan. 13, 1970, 2223 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
37083.5	213.0	0.4	14.4	1.1	71.8	4.8
42991.7	210.7	1.0	8.4	3.7	237.2	25.0
47451.4	225.4	1.8	37.7	6.5	236.2	9.7
51151.9	229.4	2.0	47.2	7.6	258.6	9.3
54766.7	238.7	2.7	69.6	10.6	253.5	8.6
58274.0	233.4	3.3	69.8	13.4	243.1	10.6
61762.2	232.3	3.1	100.2	12.9	256.8	7.1
65156.5	245.9	2.9	120.0	11.2	258.3	5.0
68918.2	241.6	1.7	61.0	6.5	286.8	6.1
73098.2	246.8	3.0	92.6	11.0	268.5	6.5
77116.8	253.2	8.7	41.6	31.0	180.1	42.1
80987.3	229.4	7.7	80.1	30.4	169.0	21.5
84712.1	202.2	4.5	87.5	21.3	9.2	14.2
87830.6	264.6	16.4	153.3	63.4	233.0	21.9
90393.0	201.9	15.6	112.1	73.0	153.0	37.4
92863.5	264.9	20.6	187.2	81.2	258.8	22.6
95231.2	222.2	15.7	45.1	64.6	241.1	80.2
97460.2	161.6	13.7	219.2	73.0	111.5	20.7

WIND COMPONENTS
M/SEC

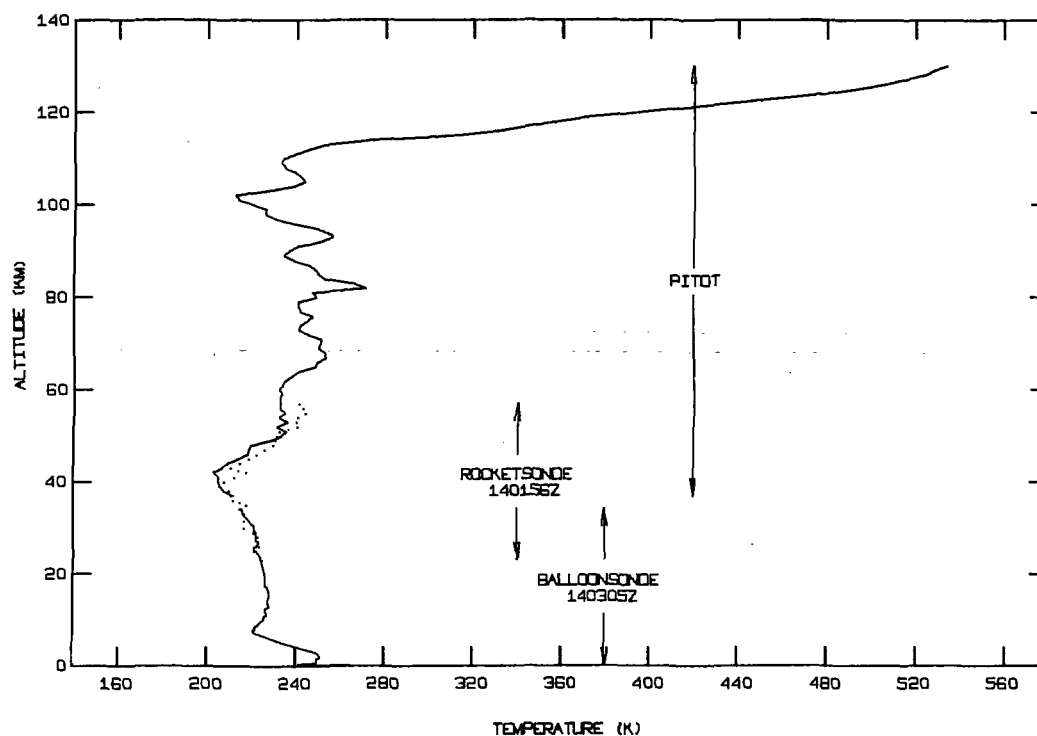


ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
38000	-3.0	-10.4
40000	-0.0	-3.4
42000	3.0	3.6
44000	8.2	12.5
46000	15.6	23.4
48000	18.8	33.4
50000	12.9	41.6
52000	11.7	51.1
54000	17.5	62.3
56000	23.9	65.2
58000	29.8	64.1
60000	27.1	79.7
62000	23.2	98.3
64000	23.6	110.8
66000	14.7	104.2
68000	-7.4	72.8
70000	-12.4	67.2
72000	-2.8	83.6
74000	11.2	71.8
76000	30.7	25.8
78000	50.0	-3.3
80000	69.2	-11.3
82000	33.8	-14.9
84000	-52.7	-13.4
86000	-12.5	42.3
88000	83.4	91.8
90000	96.1	-9.2
92000	58.6	101.0
94000	29.2	114.5
96000	42.5	-45.0

Table 5—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
38000	212.6	0.347E 03	-7.9	0.568E-02	5.9
39000	212.2	0.296E 03	-9.9	0.485E-02	5.0
40000	211.9	0.252E 03	-11.9	0.415E-02	3.9
41000	211.5	0.215E 03	-14.2	0.354E-02	2.6
42000	211.1	0.183E 03	-16.5	0.302E-02	1.1
43000	210.8	0.156E 03	-18.9	0.258E-02	-0.5
44000	214.1	0.133E 03	-21.3	0.216E-02	-4.0
45000	217.4	0.113E 03	-23.8	0.181E-02	-7.4
46000	220.7	0.971E 02	-25.9	0.153E-02	-10.4
47000	223.9	0.836E 02	-27.7	0.130E-02	-13.0
48000	226.0	0.720E 02	-29.5	0.111E-02	-15.6
49000	227.1	0.620E 02	-31.2	0.951E-03	-18.1
50000	228.2	0.535E 02	-32.8	0.817E-03	-20.3
51000	229.3	0.462E 02	-34.3	0.702E-03	-22.5
52000	231.6	0.399E 02	-35.8	0.600E-03	-25.0
53000	234.1	0.345E 02	-37.2	0.513E-03	-27.7
54000	236.7	0.299E 02	-38.1	0.440E-03	-30.1
55000	238.3	0.260E 02	-39.1	0.380E-03	-32.1
56000	236.8	0.226E 02	-39.9	0.332E-03	-33.1
57000	235.3	0.196E 02	-40.8	0.290E-03	-34.1
58000	233.8	0.169E 02	-41.7	0.253E-03	-35.2
59000	233.2	0.147E 02	-42.5	0.219E-03	-36.4
60000	232.9	0.127E 02	-43.2	0.190E-03	-37.7
61000	232.5	0.110E 02	-43.9	0.165E-03	-38.8
62000	233.3	0.954E 01	-44.6	0.142E-03	-40.4
63000	237.3	0.826E 01	-45.2	0.121E-03	-42.9
64000	241.3	0.717E 01	-45.4	0.103E-03	-44.9
65000	245.3	0.626E 01	-45.2	0.889E-04	-46.6
66000	244.9	0.546E 01	-44.9	0.777E-04	-47.1
67000	243.8	0.476E 01	-44.6	0.681E-04	-47.4
68000	242.7	0.415E 01	-44.2	0.595E-04	-47.7
69000	241.7	0.361E 01	-43.6	0.520E-04	-47.9
70000	243.0	0.314E 01	-42.9	0.451E-04	-48.4
71000	244.2	0.274E 01	-42.1	0.390E-04	-48.8
72000	245.4	0.239E 01	-40.9	0.339E-04	-48.9
73000	246.7	0.209E 01	-39.4	0.295E-04	-49.0
74000	248.2	0.182E 01	-37.8	0.256E-04	-48.9
75000	249.8	0.159E 01	-35.9	0.222E-04	-48.7
76000	251.4	0.139E 01	-33.6	0.193E-04	-48.2
77000	253.0	0.122E 01	-30.9	0.168E-04	-47.4
78000	247.8	0.107E 01	-27.8	0.150E-04	-45.1
79000	241.6	0.941E 00	-24.3	0.135E-04	-42.2
80000	235.5	0.814E 00	-21.4	0.120E-04	-39.7
81000	229.3	0.704E 00	-18.2	0.106E-04	-35.6
82000	222.0	0.609E 00	-14.9	0.956E-05	-30.8
83000	214.7	0.525E 00	-11.8	0.852E-05	-25.8
84000	207.4	0.445E 00	-10.1	0.748E-05	-21.7
85000	207.9	0.378E 00	-8.3	0.633E-05	-20.3
86000	228.0	0.320E 00	-6.6	0.489E-05	-26.0
87000	248.0	0.277E 00	-2.9	0.389E-05	-29.3
88000	260.5	0.244E 00	2.8	0.326E-05	-28.6
89000	236.0	0.215E 00	9.1	0.318E-05	-16.4
90000	211.5	0.183E 00	11.7	0.302E-05	-4.6
91000	217.4	0.155E 00	13.5	0.249E-05	-4.0
92000	242.9	0.133E 00	16.9	0.192E-05	-10.1
93000	262.4	0.118E 00	23.1	0.156E-05	-11.0
94000	244.4	0.104E 00	29.3	0.148E-05	1.9
95000	226.3	0.899E-01	32.2	0.138E-05	14.2
96000	201.3	0.776E-01	35.0	0.134E-05	33.2
97000	174.1	0.644E-01	32.4	0.129E-05	53.3

Table 6—Pitot data, Churchill, Jan. 13, 1970, 2351 GMT.



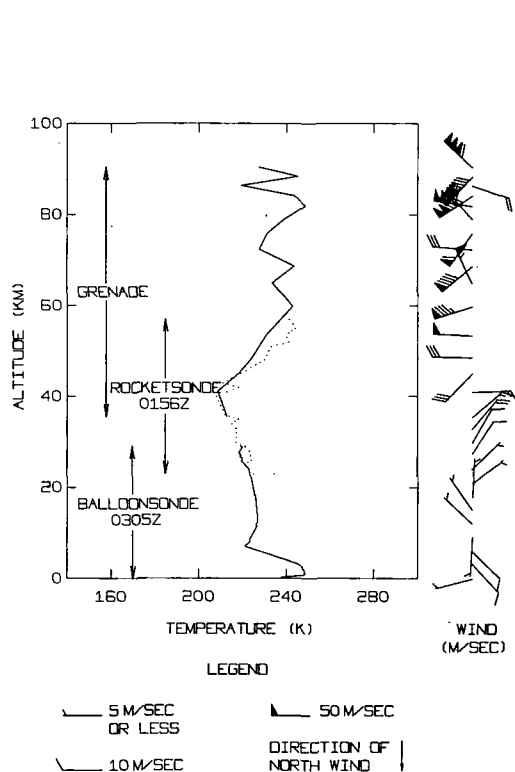
ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
37000	212.3	0.391E 03	-9.5	0.624E-02	0.0
38000	207.9	0.333E 03	-11.6	0.558E-02	3.9
39000	206.1	0.282E 03	-14.0	0.478E-02	3.3
40000	205.5	0.239E 03	-16.4	0.407E-02	1.8
41000	205.7	0.203E 03	-18.7	0.345E-02	-0.1
42000	203.4	0.173E 03	-21.2	0.296E-02	-1.1
43000	207.6	0.146E 03	-24.0	0.246E-02	-5.3
44000	210.0	0.124E 03	-26.3	0.207E-02	-8.3
45000	214.2	0.106E 03	-28.6	0.173E-02	-12.0
46000	218.8	0.910E 02	-30.6	0.145E-02	-15.4
47000	219.6	0.782E 02	-32.4	0.124E-02	-17.1
48000	220.3	0.670E 02	-34.4	0.106E-02	-19.5
49000	229.2	0.577E 02	-36.1	0.877E-03	-24.5
50000	234.0	0.498E 02	-37.5	0.743E-03	-27.6
51000	236.2	0.433E 02	-38.5	0.638E-03	-29.6
52000	231.8	0.374E 02	-39.8	0.563E-03	-29.7
53000	236.5	0.325E 02	-40.8	0.478E-03	-32.7
54000	232.7	0.281E 02	-41.9	0.421E-03	-33.3
55000	235.1	0.243E 02	-42.9	0.361E-03	-35.6
56000	232.7	0.210E 02	-44.0	0.316E-03	-36.4
57000	233.2	0.182E 02	-44.8	0.273E-03	-38.1
58000	232.6	0.158E 02	-45.5	0.237E-03	-39.3
59000	234.0	0.137E 02	-46.3	0.204E-03	-41.0
60000	232.3	0.118E 02	-47.1	0.178E-03	-41.8
61000	234.1	0.102E 02	-47.7	0.153E-03	-43.3
62000	235.3	0.891E 01	-48.3	0.132E-03	-44.8
63000	238.5	0.773E 01	-48.7	0.113E-03	-46.8
64000	241.6	0.673E 01	-48.8	0.970E-04	-48.5
65000	248.8	0.587E 01	-48.6	0.822E-04	-50.6
66000	249.7	0.513E 01	-48.3	0.716E-04	-51.3

Table 6--Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
67000	253.4	0.449E 01	-47.8	0.618E-04	-52.3
68000	253.8	0.394E 01	-47.0	0.541E-04	-52.5
69000	250.5	0.345E 01	-46.2	0.480E-04	-52.0
70000	251.7	0.302E 01	-45.1	0.418E-04	-52.2
71000	251.8	0.263E 01	-44.2	0.366E-04	-52.1
72000	245.7	0.231E 01	-42.7	0.328E-04	-50.7
73000	241.4	0.201E 01	-41.7	0.291E-04	-49.7
74000	242.7	0.175E 01	-40.1	0.252E-04	-49.7
75000	245.9	0.153E 01	-38.4	0.217E-04	-49.9
76000	248.0	0.133E 01	-36.6	0.188E-04	-49.6
77000	242.2	0.116E 01	-34.1	0.168E-04	-47.6
78000	241.1	0.101E 01	-31.6	0.147E-04	-46.5
79000	241.1	0.886E 00	-28.7	0.128E-04	-45.5
80000	249.4	0.773E 00	-25.4	0.108E-04	-45.9
81000	247.6	0.675E 00	-21.5	0.951E-05	-42.7
82000	271.7	0.595E 00	-16.8	0.764E-05	-44.7
83000	266.2	0.526E 00	-11.6	0.689E-05	-40.0
84000	253.1	0.463E 00	-6.4	0.638E-05	-33.2
85000	250.2	0.406E 00	-1.4	0.566E-05	-28.8
86000	248.2	0.355E 00	3.7	0.499E-05	-24.5
87000	245.8	0.310E 00	8.8	0.440E-05	-20.0
88000	239.2	0.270E 00	13.9	0.394E-05	-13.9
89000	234.8	0.234E 00	18.7	0.349E-05	-8.3
90000	237.1	0.203E 00	24.0	0.300E-05	-5.3
91000	240.9	0.177E 00	29.4	0.257E-05	-1.0
92000	250.3	0.154E 00	35.0	0.216E-05	1.0
93000	256.5	0.135E 00	41.6	0.185E-05	4.9
94000	254.0	0.119E 00	48.2	0.164E-05	12.4
95000	248.3	0.104E 00	54.0	0.147E-05	21.3
96000	237.7	0.914E-01	59.0	0.134E-05	32.9
97000	230.6	0.794E-01	63.1	0.120E-05	42.6
98000	225.9	0.687E-01	66.2	0.106E-05	50.4
99000	226.1	0.594E-01	68.7	0.915E-06	54.7
100000	220.6	0.511E-01	70.1	0.809E-06	62.6
101000	213.5	0.439E-01	70.8	0.718E-06	72.6
102000	212.2	0.377E-01	70.5	0.618E-06	76.9
103000	224.9	0.323E-01	69.8	0.501E-06	70.1
104000	238.9	0.279E-01	69.6	0.409E-06	64.1
105000	243.5	0.245E-01	71.2	0.350E-06	65.3
106000	241.4	0.213E-01	71.1	0.308E-06	70.7
107000	239.0	0.186E-01	71.5	0.271E-06	75.6
108000	234.8	0.161E-01	69.3	0.240E-06	81.4
109000	233.1	0.139E-01	67.4	0.210E-06	84.3
110000	234.8	0.121E-01	65.8	0.181E-06	84.1
111000	240.2	0.106E-01	63.5	0.154E-06	84.2
112000	246.5	0.927E-02	61.0	0.131E-06	83.1
113000	252.8	0.813E-02	58.3	0.112E-06	82.0
114000	274.5	0.717E-02	56.1	0.910E-07	71.0
115000	313.6	0.641E-02	55.5	0.712E-07	54.0
116000	333.4	0.578E-02	55.7	0.605E-07	49.9
117000	345.5	0.525E-02	56.4	0.530E-07	49.8
118000	358.5	0.478E-02	57.2	0.465E-07	49.4
119000	373.4	0.437E-02	58.0	0.408E-07	48.4
120000	397.3	0.401E-02	59.0	0.352E-07	44.4
121000	417.5	0.370E-02	60.6	0.309E-07	46.3
122000	439.2	0.342E-02	61.5	0.272E-07	47.5
123000	458.7	0.318E-02	62.7	0.242E-07	49.2
124000	479.1	0.297E-02	63.8	0.216E-07	50.6
125000	493.7	0.277E-02	64.4	0.196E-07	53.7
126000	506.3	0.259E-02	65.2	0.179E-07	57.0
127000	515.1	0.243E-02	65.8	0.165E-07	61.2
128000	525.0	0.229E-02	66.2	0.152E-07	64.7
129000	528.0	0.215E-02	66.6	0.142E-07	69.9
130000	534.0	0.202E-02	65.9	0.132E-07	73.9

Table 7—Rocket grenade data, Churchill, Jan. 14, 1970, 0135 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
35530.2	213.1	0.8	13.9	2.0	49.6	8.5
41023.2	208.9	0.6	15.8	2.4	88.5	9.2
45198.2	218.8	1.1	29.9	4.4	223.0	8.4
48622.0	224.8	1.3	28.1	5.5	271.0	11.5
53480.6	231.0	0.5	51.0	2.6	272.3	2.9
59855.2	242.9	0.6	85.4	3.3	251.9	2.1
64961.4	233.7	1.5	53.2	9.4	335.3	10.2
68761.5	243.8	2.2	89.5	13.9	229.5	8.6
72388.8	227.9	2.6	29.8	17.5	274.6	33.6
75870.7	231.5	2.6	60.9	18.0	214.3	16.5
79175.3	239.6	2.3	67.8	15.8	318.0	13.3
81964.1	248.9	5.8	115.9	37.4	278.4	17.9
84243.0	243.7	6.4	138.6	40.6	236.1	16.0
86432.5	219.5	7.3	21.0	48.0	108.6	132.2
88529.5	245.6	18.1	190.1	107.4	222.6	30.6
90492.0	227.5	17.5	159.2	107.0	313.3	37.2



WIND COMPONENTS
M/SEC

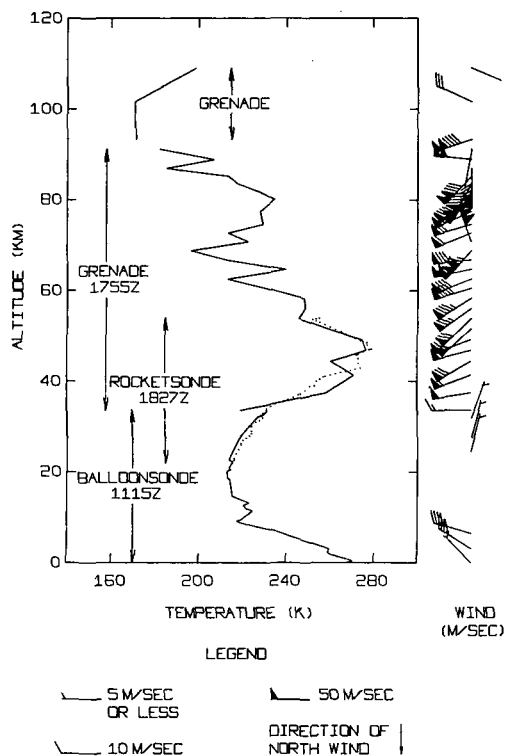
ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
36000	-8.2	-11.0
38000	-5.1	-12.9
40000	-2.0	-14.8
42000	4.7	-7.3
44000	15.4	10.0
46000	16.5	22.1
48000	3.7	26.7
50000	-0.9	34.5
52000	-1.5	44.0
54000	0.5	53.4
56000	9.2	62.9
58000	18.1	72.4
60000	20.8	76.5
62000	-4.9	56.4
64000	-34.2	33.3
66000	-19.2	34.7
68000	36.1	58.5
70000	37.4	55.0
72000	7.0	34.9
74000	21.9	31.9
76000	37.6	35.2
78000	-14.6	41.4
80000	-40.2	66.0
82000	-8.7	108.9
84000	56.6	106.1
86000	28.3	17.4
88000	95.6	86.9
90000	-46.8	119.0

Table 7—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
36000	212.7	0.466E 03	-6.4	0.763E-02	5.2
37000	212.0	0.397E 03	-8.1	0.653E-02	4.8
38000	211.2	0.339E 03	-9.9	0.560E-02	4.3
39000	210.4	0.289E 03	-11.9	0.479E-02	3.5
40000	209.6	0.246E 03	-14.2	0.409E-02	2.3
41000	208.9	0.209E 03	-16.5	0.349E-02	1.0
42000	211.2	0.178E 03	-18.9	0.294E-02	-1.8
43000	213.6	0.151E 03	-21.4	0.247E-02	-4.8
44000	216.0	0.129E 03	-23.5	0.209E-02	-7.4
45000	218.3	0.111E 03	-25.4	0.177E-02	-9.8
46000	220.2	0.952E 02	-27.4	0.150E-02	-12.1
47000	222.0	0.816E 02	-29.5	0.128E-02	-14.4
48000	223.7	0.703E 02	-31.2	0.109E-02	-16.9
49000	225.3	0.605E 02	-33.0	0.935E-03	-19.5
50000	226.6	0.520E 02	-34.6	0.800E-03	-22.0
51000	227.9	0.449E 02	-36.1	0.687E-03	-24.1
52000	229.1	0.389E 02	-37.4	0.591E-03	-26.1
53000	230.4	0.336E 02	-38.7	0.508E-03	-28.4
54000	232.0	0.290E 02	-40.0	0.436E-03	-30.8
55000	233.8	0.251E 02	-41.1	0.374E-03	-33.2
56000	235.7	0.217E 02	-42.3	0.321E-03	-35.4
57000	237.6	0.188E 02	-43.1	0.276E-03	-37.4
58000	239.4	0.163E 02	-43.7	0.238E-03	-38.9
59000	241.3	0.142E 02	-44.1	0.206E-03	-40.4
60000	242.6	0.124E 02	-44.6	0.178E-03	-41.6
61000	240.8	0.108E 02	-44.9	0.156E-03	-42.0
62000	239.0	0.943E 01	-45.2	0.137E-03	-42.5
63000	237.3	0.821E 01	-45.4	0.120E-03	-43.2
64000	235.5	0.712E 01	-45.8	0.105E-03	-44.0
65000	233.8	0.617E 01	-46.1	0.919E-04	-44.8
66000	236.5	0.534E 01	-46.2	0.787E-04	-46.4
67000	239.1	0.463E 01	-46.1	0.675E-04	-47.9
68000	241.8	0.404E 01	-45.7	0.582E-04	-48.9
69000	242.7	0.352E 01	-45.1	0.505E-04	-49.4
70000	238.4	0.307E 01	-44.3	0.448E-04	-48.7
71000	234.0	0.266E 01	-43.6	0.396E-04	-48.0
72000	229.6	0.230E 01	-43.1	0.349E-04	-47.5
73000	228.5	0.198E 01	-42.4	0.303E-04	-47.6
74000	229.5	0.171E 01	-41.5	0.260E-04	-48.0
75000	230.6	0.148E 01	-40.3	0.224E-04	-48.2
76000	231.8	0.128E 01	-38.8	0.193E-04	-48.2
77000	234.2	0.111E 01	-37.2	0.165E-04	-48.4
78000	236.7	0.966E 00	-35.0	0.142E-04	-48.2
79000	239.1	0.840E 00	-32.4	0.122E-04	-47.8
80000	242.3	0.731E 00	-29.4	0.105E-04	-47.4
81000	245.7	0.637E 00	-26.0	0.903E-05	-45.6
82000	248.8	0.557E 00	-22.2	0.779E-05	-43.5
83000	246.6	0.487E 00	-18.2	0.688E-05	-40.1
84000	244.3	0.425E 00	-14.2	0.606E-05	-36.5
85000	235.4	0.371E 00	-10.0	0.549E-05	-30.9
86000	224.3	0.320E 00	-6.5	0.497E-05	-24.7
87000	226.6	0.275E 00	-3.5	0.423E-05	-23.1
88000	239.0	0.238E 00	0.4	0.347E-05	-24.0
89000	241.2	0.208E 00	5.5	0.301E-05	-20.9
90000	232.0	0.181E 00	10.2	0.272E-05	-14.1

Table 8—Rocket grenade data, Wallops Island, Jan. 14, 1970, 1147 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
93370.8	171.1	1.0	138.8	2.4	251.0	1.7
101559.1	170.4	0.6	31.2	1.7	294.8	4.1
109064.5	198.7	3.0	232.7	14.0	113.1	11.6



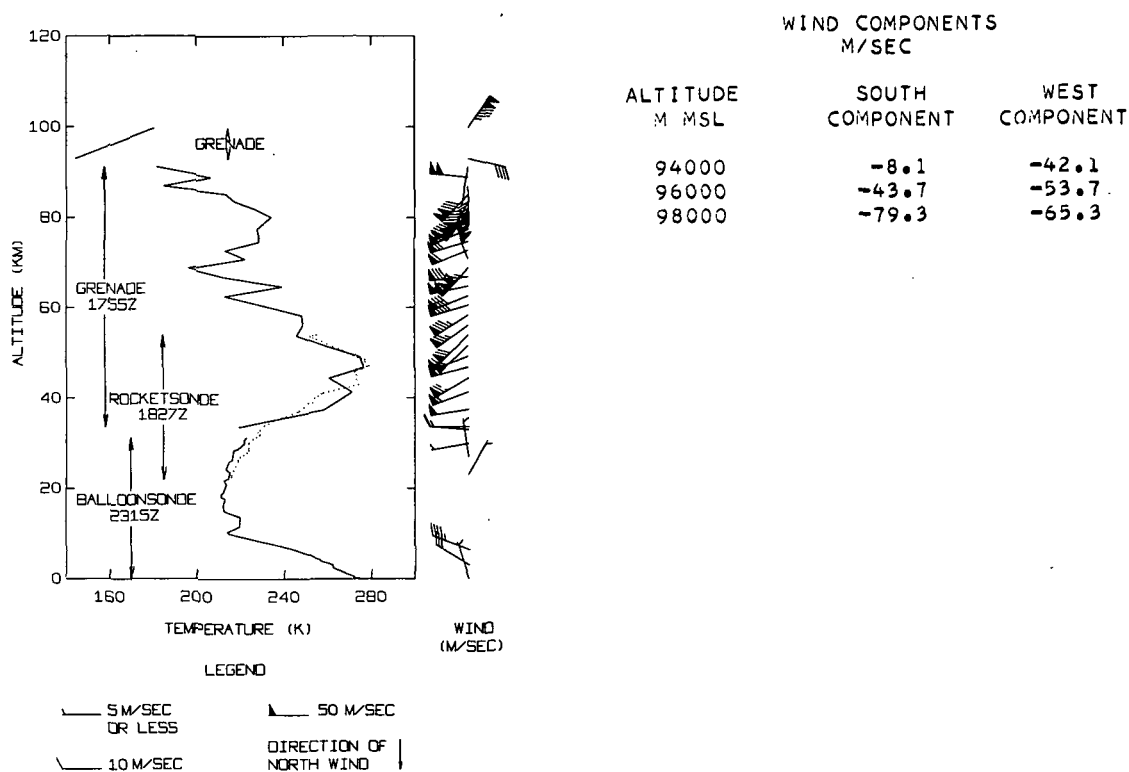
WIND COMPONENTS
M/SEC

ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
94000	40.6	123.3
96000	26.4	98.2
98000	12.1	73.0
100000	-2.0	47.9
102000	-5.3	12.5
104000	20.8	-50.5
106000	48.6	-115.1
108000	76.5	-179.7

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
94000	171.0	0.970E-01	20.2	0.197E-05	35.4
95000	170.9	0.799E-01	17.5	0.162E-05	34.5
96000	170.9	0.658E-01	14.6	0.134E-05	33.2
97000	170.8	0.542E-01	11.4	0.110E-05	31.5
98000	170.7	0.446E-01	8.0	0.911E-06	29.4
99000	170.6	0.368E-01	4.4	0.751E-06	27.1
100000	170.5	0.303E-01	0.7	0.619E-06	24.4
101000	170.5	0.249E-01	-3.0	0.510E-06	22.6
102000	172.1	0.205E-01	-7.0	0.416E-06	19.1
103000	175.9	0.169E-01	-11.1	0.335E-06	13.9
104000	179.6	0.139E-01	-15.3	0.270E-06	8.6
105000	183.4	0.115E-01	-19.6	0.218E-06	3.1
106000	187.2	0.947E-02	-23.9	0.176E-06	-2.2
107000	190.9	0.785E-02	-27.8	0.143E-06	-7.1
108000	194.7	0.665E-02	-30.1	0.119E-06	-10.0
109000	198.5	0.563E-02	-32.5	0.989E-07	-13.1

Table 9—Rocket grenade data, Wallops Island, Jan. 14, 1970, 1723 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
93042.5	144.6	2.9	37.6	7.8	103.7	130.1
99797.0	184.2	13.3	134.7	37.4	34.2	12.3

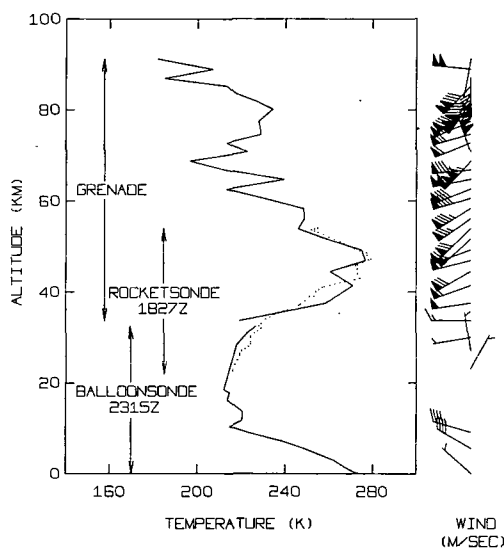


ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
94000	150.2	0.881E-01	9.2	0.204E-05	40.0
95000	156.1	0.700E-01	3.0	0.156E-05	29.1
96000	162.0	0.580E-01	1.0	0.124E-05	23.8
97000	167.8	0.485E-01	-0.3	0.100E-05	19.6
98000	173.7	0.405E-01	-2.0	0.812E-06	15.4
99000	179.6	0.338E-01	-3.8	0.657E-06	11.1

Table 10--Rocket grenade data, Wallops Island, Jan. 14, 1970, 1755 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
33611.8	219.5	0.6	15.9	0.5	270.4	4.0
37474.1	258.8	0.7	47.6	0.6	260.7	1.7
41334.8	271.3	0.7	55.6	0.9	249.7	1.9
44428.8	260.7	1.1	71.3	1.6	239.6	2.3
46829.4	276.9	1.2	61.2	1.6	255.6	3.1
49217.9	274.9	1.3	59.0	1.8	249.0	3.5
51564.0	259.3	1.2	59.0	2.6	226.6	3.2
53835.3	246.1	1.0	69.2	2.4	225.4	2.5
56067.2	249.0	0.8	75.3	1.7	234.2	2.0
58299.3	248.5	0.7	83.6	1.6	237.8	1.8
60480.3	230.9	0.7	89.6	1.4	253.9	1.9
62579.5	213.3	0.5	81.9	1.3	247.9	1.8
64632.1	239.8	0.7	104.9	1.4	258.5	1.6
66781.3	213.3	0.8	85.7	1.9	264.4	2.6
68827.8	196.5	1.0	166.6	3.7	222.6	1.5
70804.4	222.7	1.2	149.3	6.0	340.3	1.1
72727.3	213.4	0.8	61.9	2.0	247.8	3.6
74634.6	229.2	0.9	72.3	2.1	253.4	3.3
77419.1	227.9	0.5	70.8	1.3	246.0	1.9
80143.9	234.6	1.7	80.7	4.5	233.9	4.8
81905.4	227.0	1.6	105.9	5.6	214.1	3.0
83621.9	217.4	1.2	138.3	5.1	208.8	1.8
85289.4	213.3	1.3	129.5	4.8	224.0	2.6
86920.5	185.2	2.4	131.9	14.1	179.2	3.1
88906.9	207.1	2.5	98.7	7.6	275.5	7.4
91217.7	182.0	2.0	337.5	10.4	191.0	1.1

WIND COMPONENTS
M/SEC



ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
34000	0.6	19.0
36000	4.7	35.1
38000	9.3	47.3
40000	15.2	50.4
42000	22.9	54.2
44000	32.6	59.9
46000	22.4	60.0
48000	18.0	57.2
50000	27.6	51.0
52000	41.6	44.8
54000	47.2	50.6
56000	44.6	60.6
58000	43.2	69.8
60000	29.9	82.0
62000	28.7	79.5
64000	23.9	93.5
66000	13.6	92.0
68000	74.9	101.3
70000	-31.4	76.1
72000	-40.3	54.7
74000	21.6	65.1
76000	24.5	67.1
78000	32.9	64.9
80000	49.4	64.5
82000	88.8	61.4
84000	111.3	72.9
86000	110.7	104.5
88000	55.5	52.5
90000	151.7	82.3

Table 10—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	223.4	0.611E 03	-7.8	0.953E-02	-3.6
35000	233.6	0.524E 03	-8.7	0.781E-02	-7.6
36000	243.8	0.454E 03	-8.7	0.649E-02	-10.4
37000	253.9	0.399E 03	-7.8	0.547E-02	-12.2
38000	260.5	0.350E 03	-7.0	0.468E-02	-12.7
39000	263.7	0.307E 03	-6.4	0.406E-02	-12.2
40000	267.0	0.270E 03	-5.6	0.353E-02	-11.5
41000	270.2	0.239E 03	-4.7	0.308E-02	-10.7
42000	269.0	0.211E 03	-3.9	0.273E-02	-8.6
43000	265.6	0.186E 03	-3.2	0.244E-02	-5.8
44000	262.2	0.164E 03	-3.1	0.218E-02	-3.4
45000	264.6	0.144E 03	-3.2	0.189E-02	-3.3
46000	271.3	0.127E 03	-3.1	0.163E-02	-4.7
47000	276.8	0.112E 03	-2.8	0.141E-02	-5.3
48000	275.9	0.997E 02	-2.4	0.125E-02	-4.3
49000	275.0	0.882E 02	-2.2	0.111E-02	-3.8
50000	269.7	0.781E 02	-2.0	0.100E-02	-1.7
51000	263.0	0.688E 02	-2.2	0.911E-03	0.5
52000	256.7	0.604E 02	-2.8	0.820E-03	2.4
53000	250.9	0.530E 02	-3.4	0.736E-03	3.6
54000	246.3	0.462E 02	-4.5	0.654E-03	3.6
55000	247.6	0.403E 02	-5.5	0.567E-03	1.2
56000	249.0	0.352E 02	-6.3	0.493E-03	-0.7
57000	248.8	0.308E 02	-6.9	0.431E-03	-2.1
58000	248.5	0.269E 02	-7.5	0.377E-03	-3.3
59000	242.8	0.235E 02	-7.9	0.337E-03	-2.3
60000	234.8	0.204E 02	-8.9	0.303E-03	-0.7
61000	226.5	0.176E 02	-10.1	0.272E-03	0.6
62000	218.1	0.152E 02	-11.7	0.243E-03	1.5
63000	218.6	0.130E 02	-13.7	0.207E-03	-2.4
64000	231.2	0.111E 02	-14.8	0.168E-03	-10.4
65000	235.8	0.974E 01	-14.9	0.143E-03	-13.6
66000	223.2	0.843E 01	-15.1	0.131E-03	-10.4
67000	211.5	0.721E 01	-16.2	0.118E-03	-8.3
68000	203.3	0.615E 01	-17.3	0.105E-03	-7.5
69000	198.8	0.518E 01	-19.1	0.909E-04	-9.0
70000	212.1	0.439E 01	-20.4	0.721E-04	-17.5
71000	221.8	0.378E 01	-20.1	0.593E-04	-22.3
72000	217.0	0.325E 01	-19.7	0.521E-04	-21.6
73000	215.7	0.278E 01	-19.5	0.448E-04	-22.4
74000	223.9	0.238E 01	-18.7	0.371E-04	-25.9
75000	229.0	0.206E 01	-17.1	0.313E-04	-27.6
76000	228.5	0.178E 01	-15.2	0.271E-04	-27.2
77000	228.1	0.154E 01	-13.0	0.235E-04	-26.7
78000	229.3	0.133E 01	-10.5	0.202E-04	-26.4
79000	231.8	0.115E 01	-7.5	0.172E-04	-26.4
80000	234.3	0.997E 00	-3.8	0.148E-04	-25.8
81000	230.9	0.865E 00	0.3	0.130E-04	-21.4
82000	226.5	0.747E 00	4.2	0.114E-04	-16.8
83000	220.8	0.644E 00	8.1	0.101E-04	-11.5
84000	216.4	0.553E 00	11.5	0.890E-05	-6.8
85000	214.0	0.474E 00	14.9	0.771E-05	-3.0
86000	201.1	0.405E 00	18.2	0.702E-05	6.2
87000	186.1	0.340E 00	19.1	0.636E-05	15.6
88000	197.1	0.285E 00	20.3	0.504E-05	10.2
89000	206.0	0.243E 00	23.1	0.411E-05	7.9
90000	195.2	0.207E 00	26.1	0.370E-05	16.7
91000	184.4	0.173E 00	26.4	0.327E-05	25.9

Table 11—Rocket grenade data, Barrow, Jan. 29, 1970, 1719 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
33066.4	216.1	0.7	13.8	4.0	20.8	15.2
36641.2	210.0	0.7	24.4	3.6	77.5	8.9
40123.5	201.5	0.3	28.8	2.1	67.1	4.4
42978.6	206.5	1.1	13.0	6.4	90.9	31.1
45215.5	206.7	1.2	38.0	7.5	31.8	10.4
47393.1	210.4	0.7	17.3	4.0	82.8	14.5
49515.5	218.7	0.9	14.5	5.3	93.8	23.3
51603.8	217.8	1.3	25.8	7.9	1.8	16.2
53657.9	224.0	0.9	38.0	5.6	35.4	7.9
55693.5	230.4	1.3	13.1	6.9	281.1	33.1
57685.9	225.4	1.9	39.4	10.1	95.7	15.7
59626.9	229.2	1.5	45.5	8.4	25.2	10.3
61537.0	240.5	1.1	18.4	6.4	353.8	18.8
63393.3	230.8	1.0	24.9	6.1	32.2	13.0
65201.9	241.4	0.4	36.9	2.4	65.5	3.8
67004.8	239.4	1.3	25.0	6.8	133.1	16.4
68749.0	241.2	3.5	12.6	17.6	338.6	80.8
70434.9	259.6	3.9	90.2	18.9	264.8	11.5
72929.4	244.9	3.3	7.2	15.1	315.9	126.3
75368.3	244.5	7.9	34.0	35.0	119.1	65.4
76920.2	219.6	3.9	144.6	19.5	59.8	8.4
78452.9	289.8	4.9	192.8	20.5	247.6	5.5
79940.9	244.9	8.1	60.0	36.8	345.7	34.0
81309.3	210.0	7.2	332.7	46.0	147.7	6.6
82977.8	259.4	8.9	74.3	43.7	335.1	29.2
84964.7	208.2	7.3	148.7	35.4	83.7	15.7
86902.6	244.5	4.9	40.3	22.6	283.8	34.4
88734.7	209.9	12.0	157.9	38.1	151.8	23.0
90444.3	203.5	16.4	105.7	71.1	351.6	47.6

WIND COMPONENTS
M/SEC

ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
34000	-10.9	-9.8
36000	-6.7	-20.2
38000	-7.5	-24.9
40000	-9.9	-25.4
42000	-3.7	-17.6
44000	-14.6	-16.2
46000	-21.1	-18.9
48000	-1.7	-16.4
50000	-6.1	-10.9
52000	-25.8	-6.4
54000	-24.4	-13.2
56000	-2.8	-0.3
58000	-6.4	-31.7
60000	-33.2	-15.1
62000	-19.9	-3.2
64000	-18.9	-20.2
66000	-0.1	-25.9
68000	1.7	4.3
70000	1.5	61.1
72000	-0.2	36.6
74000	4.3	-10.2
76000	-12.0	-22.9
78000	24.2	61.9
80000	30.9	-0.2
82000	126.0	65.4
84000	-34.4	-61.2
86000	-6.4	-48.7
88000	75.6	-26.8
90000	-41.2	-7.9

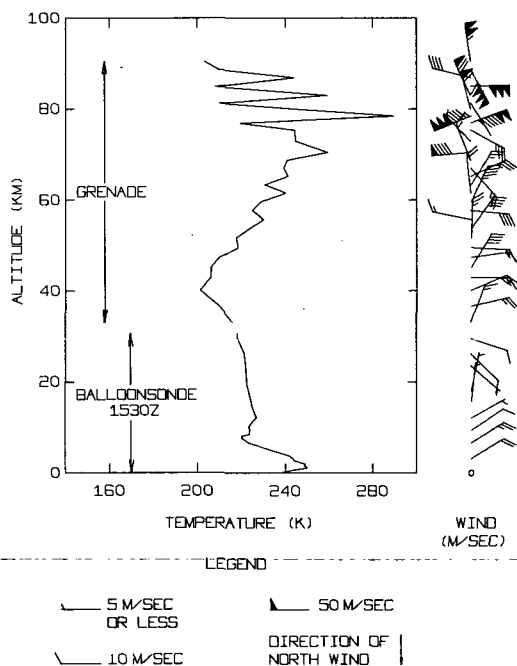
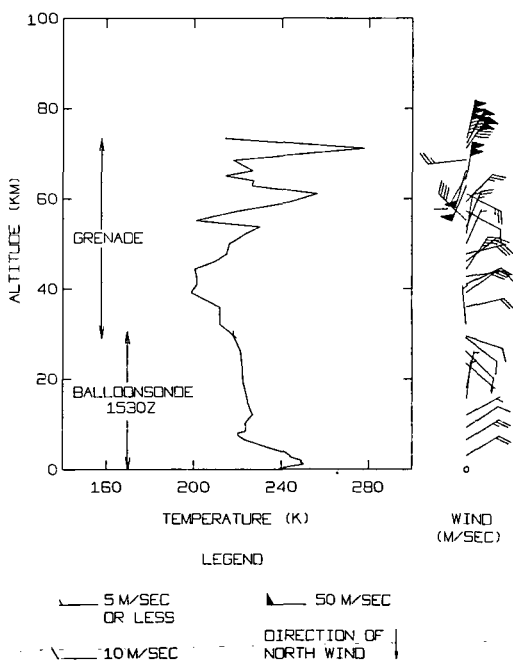


Table 11—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	214.5	0.593E 03	-10.5	0.963E-02	-2.5
35000	212.8	0.506E 03	-11.7	0.829E-02	-1.9
36000	211.1	0.431E 03	-13.4	0.711E-02	-1.9
37000	209.1	0.367E 03	-15.2	0.611E-02	-1.9
38000	206.7	0.312E 03	-17.0	0.526E-02	-1.8
39000	204.2	0.265E 03	-19.3	0.451E-02	-2.3
40000	201.8	0.224E 03	-21.9	0.386E-02	-3.2
41000	203.0	0.189E 03	-24.5	0.325E-02	-5.9
42000	204.8	0.160E 03	-27.1	0.272E-02	-8.9
43000	206.5	0.136E 03	-29.4	0.229E-02	-11.6
44000	206.6	0.115E 03	-31.7	0.194E-02	-13.7
45000	206.7	0.982E 02	-34.1	0.165E-02	-15.8
46000	208.1	0.834E 02	-36.4	0.139E-02	-18.5
47000	209.7	0.710E 02	-38.7	0.117E-02	-21.2
48000	212.8	0.604E 02	-40.8	0.990E-03	-24.8
49000	216.7	0.517E 02	-42.7	0.831E-03	-28.5
50000	218.5	0.443E 02	-44.4	0.706E-03	-31.1
51000	218.0	0.379E 02	-46.0	0.606E-03	-33.0
52000	219.0	0.325E 02	-47.6	0.517E-03	-35.3
53000	222.0	0.279E 02	-49.1	0.438E-03	-38.3
54000	225.1	0.240E 02	-50.4	0.371E-03	-41.1
55000	228.2	0.207E 02	-51.5	0.316E-03	-43.6
56000	229.6	0.178E 02	-52.4	0.271E-03	-45.4
57000	227.1	0.154E 02	-53.3	0.236E-03	-46.2
58000	226.0	0.133E 02	-54.3	0.205E-03	-47.5
59000	228.0	0.114E 02	-55.1	0.175E-03	-49.3
60000	231.4	0.991E 01	-55.8	0.149E-03	-51.2
61000	237.3	0.858E 01	-56.3	0.126E-03	-53.3
62000	238.1	0.746E 01	-56.7	0.109E-03	-54.3
63000	232.9	0.647E 01	-57.0	0.968E-04	-54.4
64000	234.4	0.560E 01	-57.4	0.832E-04	-55.8
65000	240.2	0.486E 01	-57.5	0.705E-04	-57.6
66000	240.5	0.423E 01	-57.4	0.613E-04	-58.3
67000	239.4	0.368E 01	-57.2	0.535E-04	-58.6
68000	240.4	0.320E 01	-57.0	0.463E-04	-59.3
69000	243.9	0.278E 01	-56.5	0.397E-04	-60.2
70000	254.8	0.243E 01	-55.8	0.332E-04	-61.9
71000	256.3	0.214E 01	-54.8	0.290E-04	-61.9
72000	250.4	0.187E 01	-53.8	0.260E-04	-60.9
73000	244.9	0.163E 01	-52.7	0.232E-04	-59.8
74000	244.7	0.142E 01	-51.5	0.202E-04	-59.5
75000	244.6	0.124E 01	-50.1	0.176E-04	-59.2
76000	234.4	0.108E 01	-48.5	0.160E-04	-56.9
77000	223.2	0.932E 00	-47.4	0.145E-04	-54.6
78000	269.0	0.810E 00	-45.5	0.104E-04	-61.8
79000	273.3	0.722E 00	-41.9	0.920E-05	-60.8
80000	243.4	0.633E 00	-38.9	0.905E-05	-54.6
81000	217.9	0.548E 00	-36.3	0.876E-05	-47.2
82000	230.5	0.468E 00	-34.6	0.707E-05	-48.7
83000	258.9	0.411E 00	-30.9	0.554E-05	-51.8
84000	233.1	0.362E 00	-26.9	0.541E-05	-43.4
85000	208.9	0.308E 00	-25.1	0.514E-05	-35.3
86000	227.6	0.263E 00	-23.2	0.403E-05	-39.0
87000	242.7	0.229E 00	-19.4	0.329E-05	-40.0
88000	223.8	0.200E 00	-15.7	0.311E-05	-31.9
89000	208.9	0.170E 00	-13.5	0.284E-05	-25.2
90000	205.2	0.145E 00	-11.5	0.246E-05	-22.1

Table 12—Rocket grenade data, Barrow, Jan. 29, 1970, 1721 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
29167.0	219.8	1.6	9.6	2.4	127.1	12.6
32170.1	212.2	2.8	6.2	3.9	353.9	38.2
35994.1	212.0	1.7	20.0	2.5	76.3	6.9
39247.8	199.3	3.4	27.9	5.0	54.0	10.5
41035.5	201.9	3.6	23.8	5.2	64.1	12.2
42773.8	201.6	3.0	12.4	4.5	80.9	18.4
44465.0	200.7	4.5	36.0	5.9	33.3	10.5
46133.6	210.0	12.9	23.8	16.6	51.8	41.8
47760.7	215.3	13.4	31.1	18.2	75.3	30.6
50097.9	216.7	2.6	3.5	2.9	23.4	56.4
52367.9	224.3	7.3	9.8	7.7	8.9	54.2
53816.9	230.4	15.0	24.8	15.4	22.0	42.2
55230.9	201.2	17.7	39.7	22.6	314.1	30.7
57280.2	220.0	11.1	10.7	14.3	117.7	63.1
59253.8	243.9	23.5	23.4	23.3	43.4	63.4
61106.3	256.5	13.7	24.9	15.1	116.1	25.9
62923.4	226.7	26.7	50.0	24.4	202.6	36.4
64063.5	227.6	26.4	101.3	24.9	9.1	17.4
65162.2	214.6	28.2	11.4	27.9	209.4	175.0
66227.4	226.8	51.8	50.0	48.2	195.6	69.0
68621.0	218.0	12.2	25.1	13.5	263.6	28.1
71137.7	278.0	74.6	132.4	62.5	34.7	29.1
72385.8	242.4	66.5	130.1	60.6	27.7	30.5
73464.7	214.2	46.5	184.5	43.7	12.4	16.7



WIND COMPONENTS
M/SEC

ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
30000	2.4	-5.3
32000	-4.7	-1.1
34000	-5.5	-8.9
36000	-5.7	-18.3
38000	-11.9	-21.4
40000	-13.7	-22.1
42000	-5.9	-7.1
44000	-20.5	-17.4
46000	-16.9	-20.2
48000	-7.7	-24.4
50000	-4.4	-5.1
52000	-9.2	-2.0
54000	-22.6	0.9
56000	-15.1	13.6
58000	-3.5	-11.6
60000	-5.3	-18.6
62000	28.0	25.4
64000	-41.8	-3.0
66000	31.4	21.7
68000	13.6	20.4
70000	-58.3	-30.0
72000	-118.2	-91.7

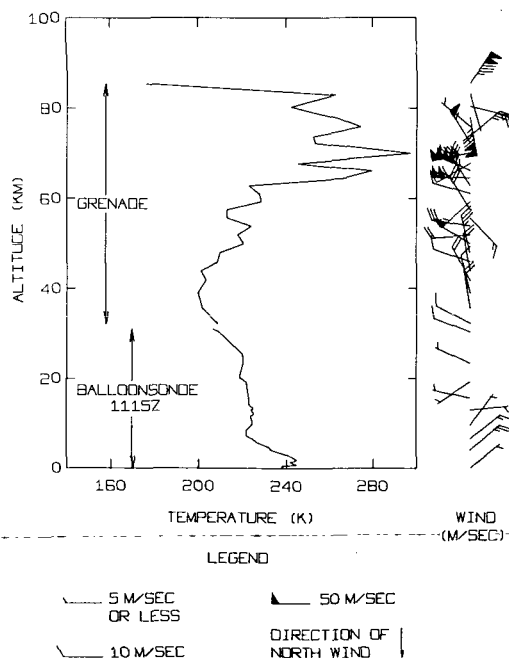
Table 12—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
30000	217.7	0.111E 04	-7.1	0.177E-01	-3.3
31000	215.1	0.951E 03	-7.7	0.153E-01	-2.4
32000	212.6	0.810E 03	-8.8	0.132E-01	-2.0
33000	212.1	0.691E 03	-9.9	0.113E-01	-1.9
34000	212.1	0.589E 03	-11.1	0.967E-02	-2.1
35000	212.0	0.502E 03	-12.6	0.824E-02	-2.5
36000	212.0	0.428E 03	-14.1	0.703E-02	-3.0
37000	208.1	0.364E 03	-15.7	0.610E-02	-2.0
38000	204.2	0.311E 03	-17.4	0.530E-02	-1.1
39000	200.3	0.263E 03	-19.8	0.458E-02	-0.9
40000	200.4	0.222E 03	-22.5	0.386E-02	-3.2
41000	201.9	0.188E 03	-25.1	0.324E-02	-6.1
42000	201.7	0.159E 03	-27.6	0.274E-02	-8.3
43000	201.5	0.134E 03	-30.2	0.232E-02	-10.5
44000	200.9	0.113E 03	-32.8	0.197E-02	-12.7
45000	203.7	0.961E 02	-35.5	0.164E-02	-16.3
46000	209.3	0.817E 02	-37.7	0.135E-02	-20.6
47000	212.8	0.695E 02	-39.9	0.113E-02	-23.9
48000	215.5	0.595E 02	-41.8	0.961E-03	-26.9
49000	216.0	0.509E 02	-43.6	0.820E-03	-29.4
50000	216.6	0.435E 02	-45.3	0.700E-03	-31.7
51000	219.7	0.373E 02	-47.0	0.591E-03	-34.7
52000	223.1	0.319E 02	-48.5	0.499E-03	-37.6
53000	227.0	0.275E 02	-49.8	0.422E-03	-40.5
54000	226.6	0.237E 02	-50.9	0.365E-03	-42.1
55000	206.0	0.203E 02	-52.3	0.344E-03	-38.6
56000	208.2	0.172E 02	-54.2	0.288E-03	-42.0
57000	217.4	0.147E 02	-55.3	0.236E-03	-46.2
58000	228.7	0.126E 02	-56.4	0.193E-03	-50.5
59000	240.8	0.109E 02	-57.1	0.158E-03	-54.1
60000	249.0	0.955E 01	-57.4	0.133E-03	-56.2
61000	255.8	0.838E 01	-57.4	0.114E-03	-57.7
62000	241.8	0.735E 01	-57.3	0.105E-03	-55.7
63000	226.8	0.638E 01	-57.6	0.980E-04	-53.8
64000	227.6	0.550E 01	-58.1	0.842E-04	-55.2
65000	216.5	0.473E 01	-58.6	0.761E-04	-54.3
66000	224.2	0.405E 01	-59.1	0.630E-04	-57.1
67000	224.0	0.349E 01	-59.4	0.543E-04	-58.0
68000	220.3	0.299E 01	-59.7	0.474E-04	-58.4
69000	227.0	0.257E 01	-59.9	0.394E-04	-60.5
70000	250.9	0.220E 01	-60.0	0.306E-04	-65.0
71000	274.7	0.192E 01	-59.3	0.243E-04	-68.0
72000	253.4	0.169E 01	-58.0	0.233E-04	-64.9
73000	226.3	0.147E 01	-57.1	0.227E-04	-60.6

Table 13—Rocket grenade data, Barrow, Feb. 3, 1970, 1340 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
32203.3	208.8	1.3	10.6	3.1	297.7	18.7
35627.9	201.8	1.6	21.0	4.0	350.5	11.1
38955.6	200.0	2.4	11.8	6.1	346.2	30.5
41688.4	203.6	3.9	21.9	9.3	332.6	26.2
43816.8	201.2	3.0	20.8	7.3	350.6	20.4
45887.2	209.1	2.4	12.4	5.5	289.6	27.8
47925.9	210.4	6.2	33.4	14.2	347.0	25.1
49924.2	220.7	10.6	2.0	22.2	301.7	691.5
51882.4	218.0	8.8	18.0	20.0	265.1	63.1
53798.2	224.2	10.5	30.4	22.3	279.1	43.6
55674.7	213.2	16.7	14.9	34.9	136.4	151.0
57508.3	213.2	23.0	31.2	45.2	327.9	106.4
59296.1	228.7	23.3	53.8	61.0	228.2	40.5
61051.3	227.7	14.4	10.2	28.1	286.1	169.7
62769.7	223.1	9.2	32.5	18.1	327.6	34.9
64447.6	266.9	21.5	107.9	39.8	271.7	18.0
66087.5	279.5	30.5	165.9	53.0	294.5	16.4
67684.9	245.4	22.4	63.5	43.2	241.1	32.8
70021.8	297.2	11.5	138.1	19.0	259.0	6.6
72278.8	253.6	12.8	53.8	19.4	327.4	22.7
73710.0	252.7	19.9	33.7	31.2	49.3	49.2
75791.6	274.4	11.6	3.9	15.7	310.7	248.2
77799.8	263.9	10.6	134.4	16.1	170.3	6.8
80292.9	242.2	12.1	25.6	18.3	103.5	45.1
83005.0	262.8	35.2	313.7	56.1	163.8	9.8
85382.6	176.2	10.6	134.6	18.6	34.3	8.4

WIND COMPONENTS
M/SEC



ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
34000	-13.2	6.2
36000	-19.0	3.5
38000	-14.1	2.9
40000	-14.5	5.6
42000	-19.3	8.4
44000	-17.7	5.3
46000	-10.0	10.2
48000	-25.0	7.1
50000	-4.0	4.7
52000	0.2	18.3
54000	-1.2	21.3
56000	0.9	-1.4
58000	-5.7	22.9
60000	19.0	27.3
62000	-16.1	-10.0
64000	-13.9	81.6
66000	-44.2	130.7
68000	22.5	77.4
70000	19.2	115.4
72000	-30.2	43.3
74000	-20.1	-15.0
76000	20.5	-3.7
78000	103.5	-20.8
80000	40.8	-27.4
82000	191.8	-64.2
84000	128.6	-82.6

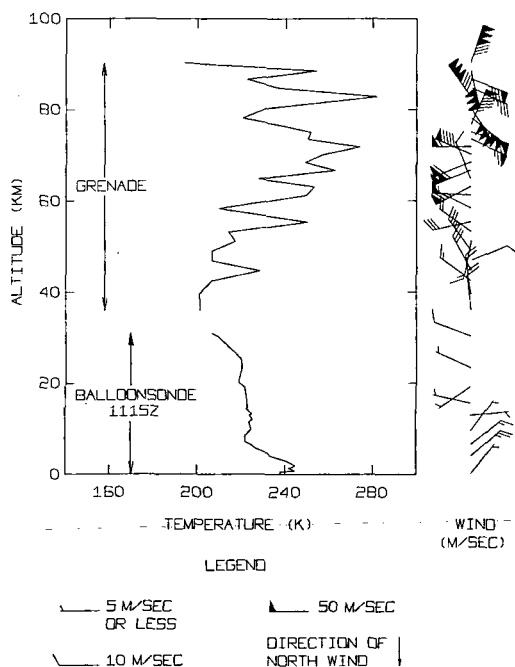
Table 13—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
33000	207.2	0.649E 03	-15.3	0.109E-01	-5.6
34000	205.1	0.551E 03	-16.8	0.937E-02	-5.2
35000	203.1	0.466E 03	-18.7	0.800E-02	-5.4
36000	201.6	0.394E 03	-20.8	0.681E-02	-6.0
37000	201.0	0.333E 03	-22.9	0.577E-02	-7.3
38000	200.5	0.281E 03	-25.2	0.489E-02	-8.7
39000	200.1	0.238E 03	-27.6	0.414E-02	-10.4
40000	201.4	0.201E 03	-29.9	0.347E-02	-13.0
41000	202.7	0.169E 03	-32.3	0.291E-02	-15.5
42000	203.3	0.143E 03	-34.5	0.246E-02	-17.6
43000	202.2	0.121E 03	-36.8	0.210E-02	-19.1
44000	201.9	0.103E 03	-39.1	0.177E-02	-21.2
45000	205.7	0.872E 02	-41.4	0.147E-02	-24.8
46000	209.1	0.742E 02	-43.4	0.123E-02	-27.8
47000	209.8	0.631E 02	-45.4	0.104E-02	-29.9
48000	210.8	0.538E 02	-47.3	0.889E-03	-32.4
49000	215.9	0.458E 02	-49.1	0.740E-03	-36.3
50000	220.6	0.393E 02	-50.6	0.622E-03	-39.4
51000	219.2	0.338E 02	-52.0	0.537E-03	-40.7
52000	218.3	0.289E 02	-53.4	0.462E-03	-42.3
53000	221.6	0.248E 02	-54.7	0.390E-03	-45.0
54000	223.0	0.213E 02	-55.9	0.333E-03	-47.1
55000	217.2	0.183E 02	-57.0	0.294E-03	-47.4
56000	213.2	0.156E 02	-58.3	0.256E-03	-48.5
57000	213.2	0.133E 02	-59.5	0.218E-03	-50.4
58000	217.5	0.114E 02	-60.7	0.183E-03	-53.1
59000	226.2	0.983E 01	-61.5	0.151E-03	-56.2
60000	228.3	0.849E 01	-62.1	0.129E-03	-57.6
61000	227.8	0.733E 01	-62.7	0.112E-03	-58.5
62000	225.2	0.632E 01	-63.3	0.978E-04	-59.1
63000	229.1	0.544E 01	-63.9	0.827E-04	-61.0
64000	255.2	0.472E 01	-64.0	0.644E-04	-65.7
65000	271.1	0.416E 01	-63.6	0.535E-04	-67.8
66000	278.8	0.369E 01	-62.8	0.461E-04	-68.6
67000	260.0	0.326E 01	-62.0	0.437E-04	-66.2
68000	252.3	0.285E 01	-61.7	0.393E-04	-65.4
69000	274.5	0.251E 01	-60.7	0.319E-04	-68.0
70000	296.7	0.225E 01	-59.2	0.264E-04	-69.8
71000	278.3	0.201E 01	-57.5	0.251E-04	-67.0
72000	258.9	0.178E 01	-56.0	0.239E-04	-64.0
73000	253.1	0.156E 01	-54.7	0.214E-04	-62.8
74000	255.7	0.136E 01	-53.4	0.186E-04	-62.8
75000	266.2	0.120E 01	-51.5	0.157E-04	-63.6
76000	273.3	0.106E 01	-49.2	0.136E-04	-63.5
77000	268.1	0.945E 00	-46.7	0.122E-04	-61.7
78000	262.1	0.833E 00	-44.0	0.110E-04	-59.7
79000	253.4	0.729E 00	-41.3	0.100E-04	-57.3
80000	244.7	0.635E 00	-38.6	0.904E-05	-54.7
81000	247.6	0.553E 00	-35.7	0.779E-05	-53.1
82000	255.1	0.482E 00	-32.6	0.658E-05	-52.3
83000	262.7	0.424E 00	-28.7	0.562E-05	-51.0
84000	226.5	0.371E 00	-25.1	0.570E-05	-40.3
85000	190.1	0.307E 00	-25.5	0.562E-05	-29.2

Table 14—Rocket grenade data, Barrow, Feb. 3, 1970, 1355 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
36097.7	201.5	0.7	19.5	3.2	354.1	8.9
39607.5	201.2	1.1	19.9	5.1	351.1	13.9
42516.4	207.0	1.9	17.3	8.3	306.6	29.5
44761.0	228.5	2.6	31.6	10.1	331.6	17.8
46916.6	206.6	1.8	12.0	7.3	67.5	36.7
49077.0	206.8	1.5	34.2	6.5	324.3	10.8
51194.4	217.4	2.1	16.8	8.3	192.2	27.2
53268.3	214.2	2.7	20.0	10.6	306.0	31.8
55357.9	250.3	2.9	28.0	9.8	258.3	20.8
58358.6	209.9	0.9	14.5	3.7	297.0	14.6
61237.3	250.0	4.8	48.9	15.3	273.0	17.4
63097.0	253.6	4.4	75.6	14.2	242.8	10.0
64932.0	227.8	2.5	8.9	8.3	336.8	54.7
66719.6	263.1	12.1	109.0	35.8	248.3	17.2
68453.5	249.0	12.7	58.9	38.5	248.0	35.6
70158.9	257.2	10.9	88.9	31.1	293.7	20.8
71834.1	274.2	10.3	56.4	27.0	269.8	28.3
73480.8	250.4	5.4	64.1	14.0	114.7	14.2
75076.9	251.8	11.2	59.3	29.8	107.1	32.9
76650.5	236.8	11.0	96.8	34.4	24.0	19.1
78194.9	220.7	6.1	108.7	19.0	127.4	11.3
80376.6	231.7	7.0	150.4	21.5	147.7	8.7
82829.8	282.2	12.6	180.2	34.6	325.1	10.7
84817.1	237.0	8.3	36.7	24.8	114.6	40.2
86731.0	222.7	13.5	79.0	42.0	110.9	32.3
88583.3	254.5	20.5	149.4	58.3	167.3	22.9
90350.4	194.6	13.1	178.6	47.3	17.7	15.8

WIND COMPONENTS
M/SEC

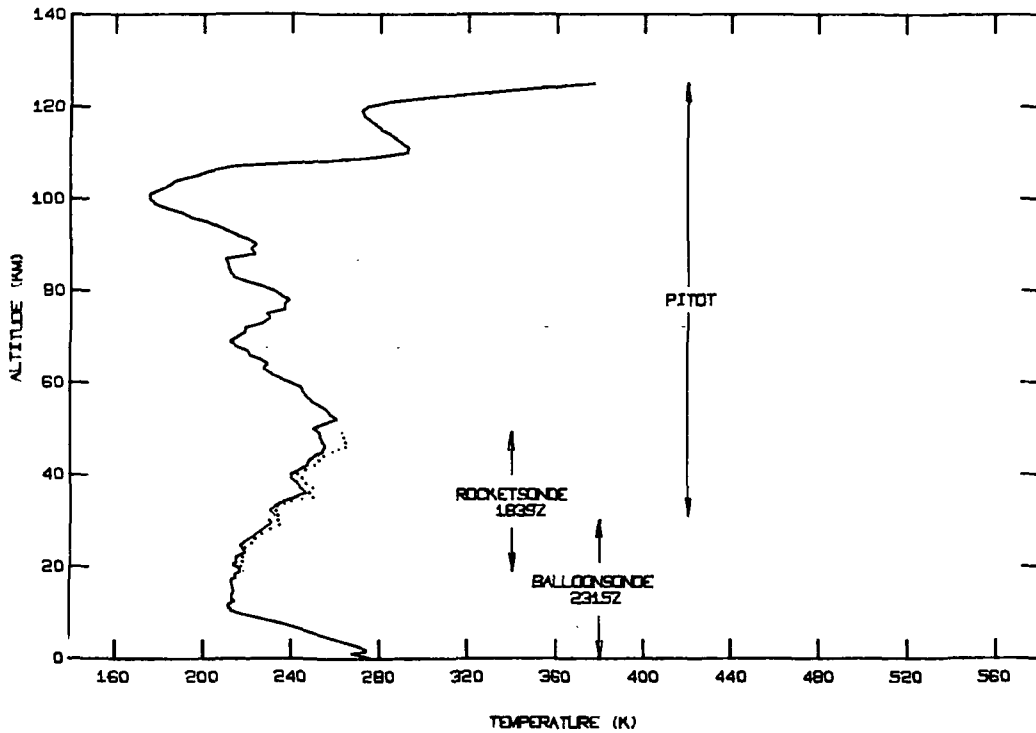


ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
38000	-19.5	2.5
40000	-18.1	4.8
42000	-12.6	11.7
44000	-21.6	14.4
46000	-14.5	0.0
48000	-16.2	4.4
50000	-8.4	12.8
52000	5.1	8.6
54000	-5.2	20.1
56000	2.6	24.0
58000	-4.5	16.4
60000	-4.3	33.4
62000	12.8	56.3
64000	13.4	15.4
66000	19.9	60.3
68000	25.0	70.0
70000	-20.5	73.5
72000	1.9	35.3
74000	22.5	-53.6
76000	-39.6	-37.9
78000	34.9	-75.0
80000	103.1	-74.3
82000	-53.4	39.9
84000	-52.4	23.0
86000	24.3	-57.6
88000	98.2	-47.1
90000	-107.5	-50.1

Table 14—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
37000	201.4	0.351E 03	-18.9	0.607E-02	-2.6
38000	201.3	0.296E 03	-21.2	0.513E-02	-4.3
39000	201.3	0.250E 03	-23.6	0.434E-02	-6.1
40000	202.0	0.212E 03	-26.1	0.365E-02	-8.4
41000	204.0	0.179E 03	-28.5	0.306E-02	-11.3
42000	205.9	0.152E 03	-30.8	0.257E-02	-14.1
43000	211.6	0.129E 03	-33.0	0.212E-02	-18.1
44000	221.2	0.110E 03	-34.9	0.173E-02	-23.1
45000	226.0	0.951E 02	-36.1	0.146E-02	-25.4
46000	215.9	0.818E 02	-37.6	0.132E-02	-22.9
47000	206.6	0.695E 02	-40.0	0.117E-02	-21.7
48000	206.7	0.590E 02	-42.2	0.995E-03	-24.4
49000	206.8	0.501E 02	-44.4	0.845E-03	-27.3
50000	211.4	0.426E 02	-46.5	0.702E-03	-31.6
51000	216.5	0.364E 02	-48.2	0.586E-03	-35.3
52000	216.2	0.312E 02	-49.8	0.503E-03	-37.1
53000	214.6	0.267E 02	-51.4	0.433E-03	-38.9
54000	226.8	0.228E 02	-52.9	0.350E-03	-44.5
55000	244.1	0.198E 02	-53.6	0.282E-03	-49.5
56000	241.7	0.173E 02	-53.9	0.249E-03	-49.8
57000	228.2	0.149E 02	-54.9	0.227E-03	-48.3
58000	214.7	0.127E 02	-56.3	0.206E-03	-47.2
59000	218.8	0.108E 02	-57.6	0.172E-03	-50.1
60000	232.8	0.923E 01	-58.8	0.138E-03	-54.8
61000	246.7	0.801E 01	-59.3	0.113E-03	-58.1
62000	251.5	0.700E 01	-59.3	0.970E-04	-59.4
63000	253.4	0.613E 01	-59.3	0.843E-04	-60.3
64000	240.9	0.537E 01	-59.1	0.777E-04	-58.7
65000	229.1	0.464E 01	-59.4	0.705E-04	-57.6
66000	248.9	0.401E 01	-59.5	0.562E-04	-61.7
67000	260.9	0.353E 01	-58.9	0.472E-04	-63.5
68000	252.7	0.310E 01	-58.2	0.427E-04	-62.4
69000	251.6	0.271E 01	-57.7	0.375E-04	-62.4
70000	256.4	0.237E 01	-56.8	0.323E-04	-63.0
71000	265.7	0.208E 01	-55.8	0.273E-04	-64.1
72000	271.8	0.184E 01	-54.3	0.236E-04	-64.4
73000	257.4	0.163E 01	-52.7	0.220E-04	-61.8
74000	250.9	0.142E 01	-51.4	0.198E-04	-60.5
75000	251.7	0.124E 01	-49.8	0.172E-04	-60.1
76000	243.0	0.109E 01	-48.0	0.156E-04	-58.0
77000	233.1	0.948E 00	-46.4	0.141E-04	-55.8
78000	222.7	0.819E 00	-44.9	0.128E-04	-53.4
79000	224.7	0.704E 00	-43.3	0.109E-04	-53.5
80000	229.8	0.609E 00	-41.1	0.924E-05	-53.7
81000	244.5	0.528E 00	-38.7	0.752E-05	-54.7
82000	265.1	0.459E 00	-35.8	0.603E-05	-56.3
83000	278.3	0.408E 00	-31.4	0.511E-05	-55.5
84000	255.6	0.361E 00	-27.0	0.493E-05	-48.4
85000	235.6	0.314E 00	-23.7	0.464E-05	-41.5
86000	228.2	0.272E 00	-20.5	0.416E-05	-37.1
87000	227.4	0.234E 00	-17.7	0.359E-05	-34.6
88000	244.5	0.203E 00	-14.3	0.289E-05	-36.7
89000	240.4	0.178E 00	-9.7	0.258E-05	-32.1
90000	206.4	0.153E 00	-6.7	0.258E-05	-18.4

Table 15—Pitot data, Wallops Island, Mar. 6, 1970, 1824 GMT.

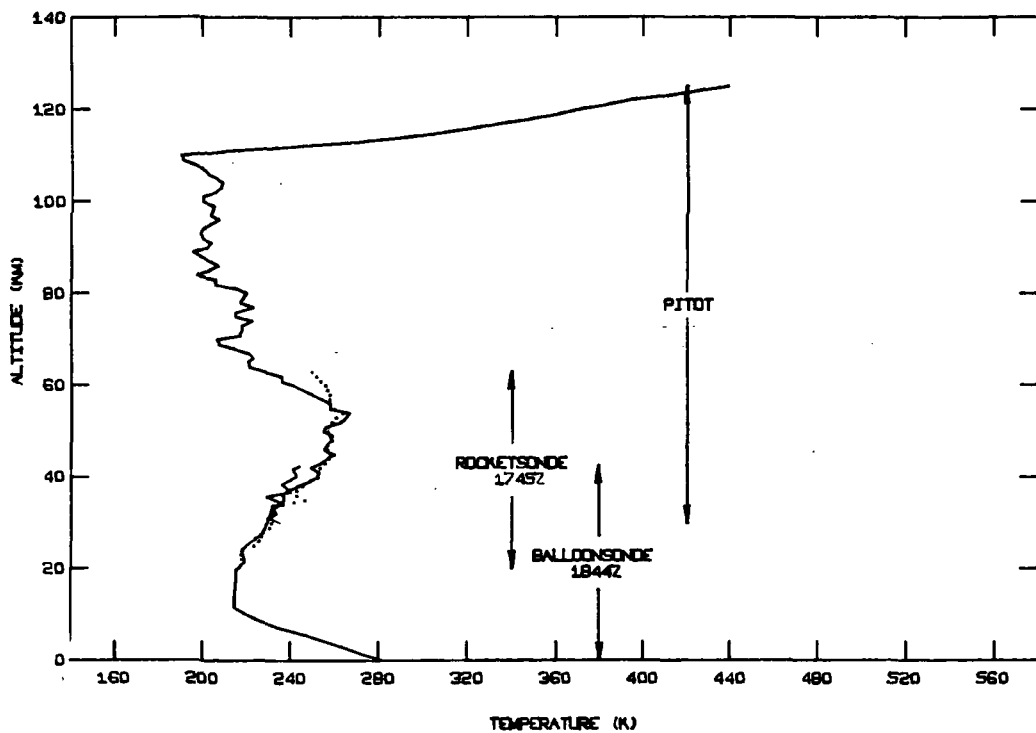


ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
31000	232.7	0.104E 04	1.7	0.157E-01	-0.5
32000	230.4	0.906E 03	1.9	0.137E-01	1.0
33000	233.1	0.783E 03	2.1	0.117E-01	1.1
34000	236.9	0.678E 03	2.2	0.997E-02	0.8
35000	242.2	0.589E 03	2.5	0.847E-02	0.0
36000	247.0	0.513E 03	2.9	0.724E-02	-0.2
37000	243.8	0.447E 03	3.3	0.639E-02	2.4
38000	243.1	0.389E 03	3.2	0.558E-02	3.9
39000	240.3	0.338E 03	2.9	0.491E-02	6.1
40000	240.7	0.294E 03	2.6	0.426E-02	6.6
41000	244.5	0.255E 03	1.9	0.365E-02	5.6
42000	247.8	0.223E 03	1.7	0.314E-02	4.8
43000	248.8	0.194E 03	0.8	0.273E-02	5.0
44000	251.5	0.170E 03	0.6	0.236E-02	4.4
45000	254.7	0.149E 03	0.1	0.204E-02	3.7
46000	255.9	0.130E 03	-0.4	0.178E-02	3.8
47000	254.3	0.114E 03	-1.0	0.157E-02	4.8
48000	253.4	0.100E 03	-1.8	0.138E-02	4.7
49000	253.1	0.879E 02	-2.6	0.121E-02	4.0
50000	250.4	0.769E 02	-3.5	0.107E-02	4.1
51000	254.9	0.673E 02	-4.4	0.920E-03	1.4
52000	261.0	0.591E 02	-4.8	0.789E-03	-1.4
53000	258.1	0.519E 02	-5.3	0.701E-03	-1.3
54000	256.1	0.455E 02	-5.9	0.620E-03	-1.8
55000	253.5	0.399E 02	-6.4	0.549E-03	-2.1
56000	249.5	0.349E 02	-7.2	0.488E-03	-1.9
57000	247.3	0.305E 02	-7.8	0.430E-03	-2.5
58000	245.6	0.266E 02	-8.5	0.378E-03	-3.3
59000	244.5	0.231E 02	-9.3	0.331E-03	-4.3
60000	239.7	0.202E 02	-9.7	0.294E-03	-3.8

Table 15--Concluded.

ALTITUDE M ASL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
61000	235.4	0.175E 02	-10.6	0.260E-03	-3.8
62000	231.5	0.151E 02	-11.9	0.229E-03	-4.3
63000	227.9	0.131E 02	-12.7	0.201E-03	-5.4
64000	230.0	0.113E 02	-13.6	0.172E-03	-8.7
65000	226.4	0.981E 01	-14.3	0.151E-03	-9.4
66000	221.3	0.845E 01	-14.9	0.133E-03	-9.5
67000	220.0	0.726E 01	-15.6	0.115E-03	-11.2
68000	215.0	0.623E 01	-16.2	0.101E-03	-11.4
69000	212.5	0.533E 01	-16.9	0.874E-04	-12.6
70000	216.2	0.455E 01	-17.4	0.734E-04	-16.1
71000	219.2	0.391E 01	-17.2	0.622E-04	-18.6
72000	219.1	0.335E 01	-17.0	0.534E-04	-19.8
73000	227.4	0.289E 01	-16.2	0.443E-04	-23.4
74000	230.4	0.250E 01	-14.7	0.378E-04	-24.6
75000	229.0	0.215E 01	-13.2	0.329E-04	-24.1
76000	237.2	0.187E 01	-10.7	0.275E-04	-26.3
77000	237.3	0.162E 01	-8.2	0.239E-04	-25.5
78000	239.2	0.141E 01	-5.0	0.206E-04	-25.0
79000	235.2	0.122E 01	-1.2	0.182E-04	-22.5
80000	232.1	0.106E 01	2.8	0.160E-04	-19.9
81000	226.1	0.922E 00	7.0	0.142E-04	-14.5
82000	219.4	0.794E 00	10.8	0.126E-04	-8.8
83000	213.5	0.679E 00	14.0	0.111E-04	-3.4
84000	212.2	0.582E 00	17.4	0.955E-05	-0.1
85000	211.2	0.497E 00	20.5	0.820E-05	3.0
86000	210.8	0.425E 00	23.9	0.702E-05	6.0
87000	210.0	0.362E 00	27.0	0.601E-05	9.1
88000	223.5	0.310E 00	30.7	0.485E-05	5.9
89000	221.7	0.267E 00	35.5	0.421E-05	10.4
90000	224.1	0.230E 00	40.2	0.359E-05	13.2
91000	220.7	0.198E 00	44.9	0.314E-05	20.8
92000	215.7	0.170E 00	49.0	0.276E-05	29.1
93000	211.5	0.146E 00	52.7	0.241E-05	36.6
94000	207.0	0.124E 00	54.8	0.210E-05	43.9
95000	202.1	0.106E 00	56.2	0.183E-05	51.1
96000	194.3	0.898E-01	56.3	0.161E-05	59.7
97000	190.9	0.757E-01	55.4	0.138E-05	63.9
98000	184.0	0.633E-01	53.0	0.120E-05	70.3
99000	178.4	0.527E-01	49.7	0.103E-05	74.2
100000	176.2	0.437E-01	45.3	0.865E-06	73.9
101000	176.4	0.362E-01	40.8	0.716E-06	72.1
102000	181.6	0.301E-01	36.1	0.577E-06	65.1
103000	185.6	0.251E-01	32.1	0.472E-06	60.2
104000	188.6	0.210E-01	27.6	0.389E-06	56.0
105000	197.5	0.177E-01	23.8	0.313E-06	47.8
106000	203.2	0.150E-01	20.8	0.258E-06	43.0
107000	215.0	0.128E-01	17.9	0.208E-06	34.8
108000	248.4	0.111E-01	16.8	0.156E-06	17.9
109000	278.0	0.981E-02	17.3	0.123E-06	7.9
110000	293.0	0.874E-02	18.9	0.104E-06	5.8
111000	293.4	0.782E-02	20.4	0.928E-07	11.0
112000	290.3	0.698E-02	21.2	0.838E-07	17.1
113000	287.8	0.622E-02	21.2	0.754E-07	22.5
114000	284.8	0.555E-02	21.0	0.679E-07	27.6
115000	280.8	0.494E-02	19.9	0.613E-07	32.5
116000	278.1	0.438E-02	18.0	0.550E-07	36.3
117000	275.4	0.390E-02	16.3	0.493E-07	39.4
118000	273.0	0.345E-02	13.4	0.441E-07	41.7
119000	272.1	0.306E-02	10.8	0.392E-07	42.6
120000	274.9	0.271E-02	7.8	0.344E-07	41.2
121000	285.0	0.241E-02	4.5	0.295E-07	39.6
122000	304.3	0.215E-02	1.8	0.247E-07	33.9
123000	328.8	0.194E-02	-0.6	0.206E-07	27.0
124000	351.4	0.175E-02	-3.0	0.175E-07	22.0
125000	377.0	0.161E-02	-4.3	0.149E-07	16.8

Table 16-Pitot data, Wallops Island, Mar. 7, 1970, 1759 GMT.

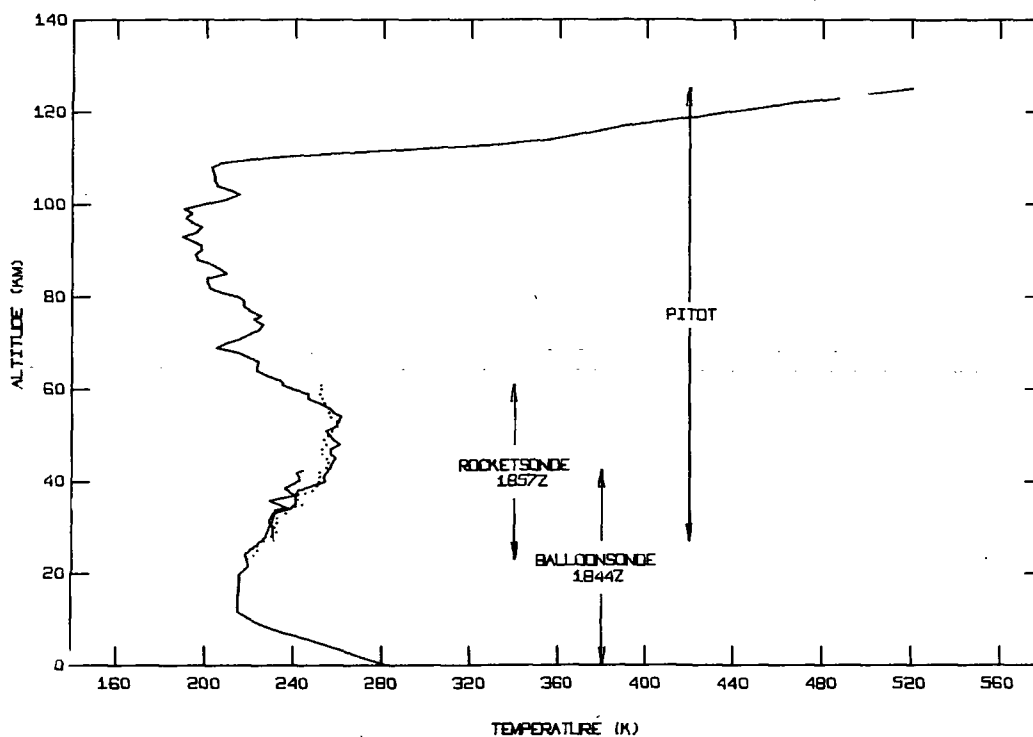


ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
30000	235.8	0.120E 04	0.6	0.178E-01	-3.3
31000	231.2	0.104E 04	1.1	0.157E-01	-0.5
32000	234.3	0.901E 03	1.3	0.134E-01	-1.1
33000	232.4	0.781E 03	1.8	0.117E-01	1.1
34000	236.5	0.675E 03	1.8	0.995E-02	0.6
35000	237.8	0.586E 03	2.0	0.858E-02	1.3
36000	237.3	0.507E 03	1.8	0.746E-02	2.7
37000	239.6	0.441E 03	1.8	0.641E-02	2.7
38000	244.2	0.383E 03	1.8	0.547E-02	1.9
39000	249.5	0.334E 03	1.7	0.467E-02	0.9
40000	252.7	0.291E 03	1.6	0.403E-02	0.8
41000	254.0	0.255E 03	1.9	0.351E-02	1.5
42000	249.9	0.223E 03	1.7	0.312E-02	4.1
43000	254.5	0.195E 03	1.5	0.268E-02	3.1
44000	257.7	0.171E 03	1.4	0.232E-02	2.7
45000	259.9	0.150E 03	1.0	0.202E-02	2.7
46000	256.0	0.132E 03	0.8	0.180E-02	5.0
47000	257.4	0.116E 03	0.1	0.157E-02	4.3
48000	258.9	0.101E 03	-0.4	0.137E-02	4.0
49000	259.7	0.894E 02	-0.9	0.120E-02	3.1
50000	255.7	0.785E 02	-1.5	0.107E-02	4.1
51000	256.6	0.689E 02	-2.1	0.935E-03	3.0
52000	263.1	0.605E 02	-2.7	0.801E-03	0.0
53000	265.9	0.533E 02	-2.9	0.698E-03	-1.7
54000	267.4	0.469E 02	-3.2	0.612E-03	-3.0
55000	258.2	0.413E 02	-3.3	0.558E-03	-0.4
56000	258.6	0.362E 02	-3.7	0.489E-03	-1.7
57000	255.1	0.318E 02	-3.8	0.435E-03	-1.4
58000	250.5	0.278E 02	-4.3	0.388E-03	-0.7
59000	246.2	0.243E 02	-4.6	0.345E-03	-0.2
60000	242.1	0.213E 02	-5.0	0.306E-03	0.0

Table 16--Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
61000	236.7	0.185E 02	-5.8	0.272E-03	0.6
62000	236.7	0.159E 02	-7.2	0.236E-03	-1.3
63000	229.6	0.138E 02	-8.0	0.211E-03	-0.7
64000	221.9	0.119E 02	-8.8	0.188E-03	-0.2
65000	221.3	0.102E 02	-10.1	0.162E-03	-2.8
66000	223.8	0.886E 01	-10.8	0.138E-03	-6.1
67000	221.6	0.763E 01	-11.3	0.120E-03	-7.4
68000	215.2	0.654E 01	-12.0	0.106E-03	-7.0
69000	208.1	0.559E 01	-12.7	0.936E-04	-6.4
70000	207.2	0.475E 01	-13.7	0.800E-04	-8.6
71000	217.8	0.406E 01	-14.1	0.651E-04	-14.8
72000	218.9	0.349E 01	-13.7	0.556E-04	-16.5
73000	218.5	0.299E 01	-13.1	0.478E-04	-17.4
74000	223.4	0.257E 01	-12.4	0.402E-04	-19.8
75000	215.4	0.221E 01	-11.1	0.358E-04	-17.4
76000	215.7	0.189E 01	-10.0	0.306E-04	-18.0
77000	223.6	0.162E 01	-8.2	0.254E-04	-20.8
78000	218.0	0.139E 01	-5.9	0.224E-04	-18.5
79000	219.6	0.120E 01	-3.1	0.191E-04	-18.6
80000	221.1	0.103E 01	-0.2	0.163E-04	-18.4
81000	216.4	0.889E 00	3.1	0.143E-04	-13.9
82000	206.7	0.759E 00	5.9	0.128E-04	-7.3
83000	206.5	0.646E 00	8.4	0.109E-04	-5.2
84000	198.0	0.549E 00	10.7	0.965E-05	0.9
85000	203.6	0.463E 00	12.4	0.794E-05	-0.1
86000	207.9	0.395E 00	15.3	0.663E-05	0.1
87000	204.4	0.337E 00	18.1	0.574E-05	4.2
88000	199.9	0.285E 00	20.1	0.498E-05	8.7
89000	195.2	0.241E 00	22.1	0.429E-05	12.5
90000	202.8	0.203E 00	24.0	0.351E-05	10.7
91000	204.8	0.173E 00	26.4	0.295E-05	13.5
92000	200.4	0.147E 00	29.2	0.256E-05	19.7
93000	199.5	0.124E 00	30.1	0.218E-05	23.6
94000	201.2	0.105E 00	31.0	0.183E-05	25.4
95000	204.3	0.897E-01	31.9	0.153E-05	26.3
96000	208.1	0.765E-01	33.1	0.128E-05	25.9
97000	204.5	0.651E-01	33.8	0.111E-05	31.9
98000	204.8	0.554E-01	34.0	0.942E-06	33.7
99000	205.3	0.471E-01	33.9	0.800E-06	35.3
100000	200.1	0.399E-01	32.9	0.697E-06	40.1
101000	200.6	0.338E-01	31.4	0.589E-06	41.6
102000	206.2	0.287E-01	30.1	0.487E-06	39.4
103000	208.8	0.245E-01	28.6	0.410E-06	39.2
104000	209.4	0.209E-01	26.8	0.349E-06	40.0
105000	206.5	0.178E-01	24.7	0.302E-06	42.6
106000	202.5	0.151E-01	21.9	0.262E-06	45.2
107000	200.1	0.129E-01	18.8	0.225E-06	45.8
108000	196.4	0.109E-01	14.9	0.194E-06	46.6
109000	191.4	0.923E-02	10.5	0.168E-06	47.4
110000	190.3	0.775E-02	5.4	0.142E-06	44.4
111000	212.5	0.658E-02	1.3	0.108E-06	29.1
112000	243.7	0.570E-02	-0.9	0.815E-07	13.9
113000	270.0	0.501E-02	-2.3	0.647E-07	5.1
114000	292.0	0.446E-02	-2.7	0.532E-07	-0.0
115000	309.4	0.399E-02	-2.9	0.450E-07	-2.6
116000	323.3	0.359E-02	-3.0	0.388E-07	-3.5
117000	336.6	0.325E-02	-3.0	0.337E-07	-4.6
118000	349.3	0.295E-02	-2.7	0.295E-07	-5.2
119000	361.2	0.269E-02	-2.6	0.260E-07	-5.3
120000	371.5	0.246E-02	-2.2	0.231E-07	-5.1
121000	383.7	0.225E-02	-2.3	0.205E-07	-2.9
122000	394.9	0.207E-02	-1.9	0.183E-07	-0.7
123000	411.2	0.190E-02	-2.6	0.162E-07	-0.0
124000	424.7	0.177E-02	-2.2	0.145E-07	1.1
125000	439.0	0.163E-02	-2.7	0.130E-07	1.9

Table 17-Pitot data, Wallops Island, Mar. 7, 1970, 1826 GMT.

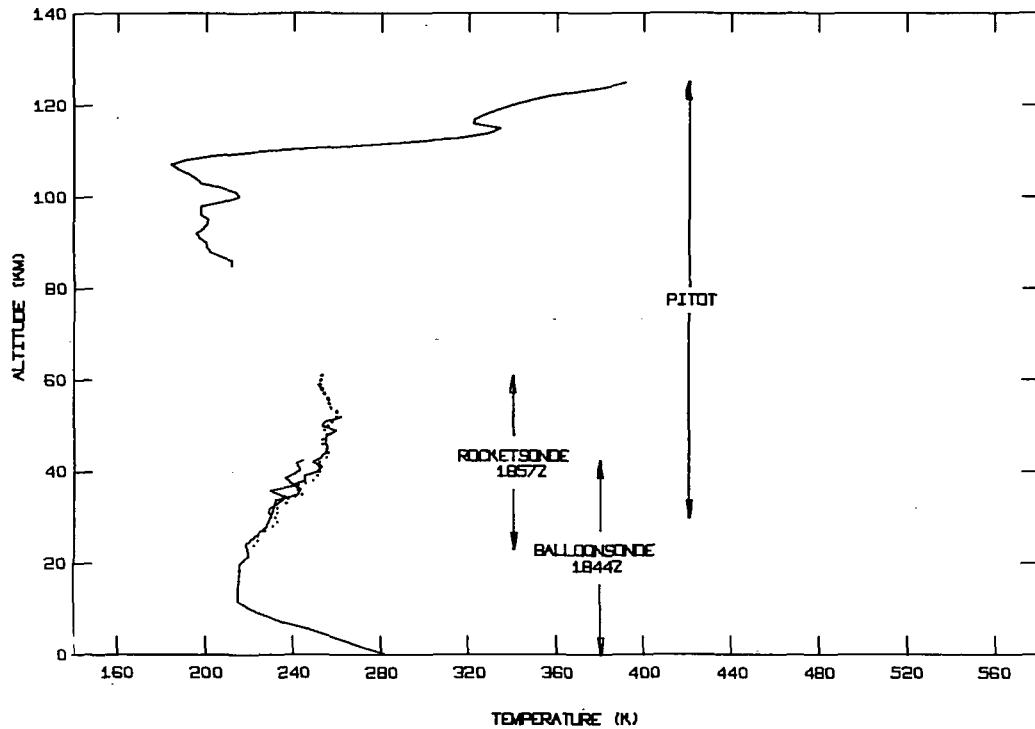


ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
27000	231.8	0.183E 04	-2.1	0.277E-01	-5.4
28000	231.1	0.158E 04	-1.8	0.240E-01	-4.3
29000	231.5	0.137E 04	-1.2	0.207E-01	-3.6
30000	231.5	0.118E 04	-0.6	0.179E-01	-2.7
31000	229.3	0.102E 04	-0.3	0.156E-01	-1.2
32000	230.4	0.886E 03	-0.2	0.134E-01	-1.1
33000	231.8	0.765E 03	-0.2	0.115E-01	-0.6
34000	239.7	0.663E 03	0.0	0.964E-02	-2.4
35000	241.4	0.577E 03	0.4	0.832E-02	-1.6
36000	241.6	0.501E 03	0.5	0.723E-02	-0.3
37000	241.7	0.435E 03	0.6	0.628E-02	0.7
38000	243.1	0.378E 03	0.3	0.543E-02	1.1
39000	249.1	0.330E 03	0.5	0.462E-02	-0.1
40000	254.9	0.289E 03	0.7	0.395E-02	-1.1
41000	254.1	0.253E 03	0.8	0.347E-02	0.4
42000	255.8	0.221E 03	0.5	0.302E-02	0.8
43000	257.5	0.194E 03	0.8	0.263E-02	1.1
44000	258.4	0.170E 03	0.6	0.230E-02	1.8
45000	259.5	0.149E 03	0.1	0.201E-02	2.2
46000	257.2	0.131E 03	0.1	0.178E-02	3.8
47000	257.5	0.115E 03	-0.5	0.156E-02	4.2
48000	261.4	0.101E 03	-0.9	0.135E-02	2.5
49000	258.4	0.890E 02	-1.4	0.120E-02	3.1
50000	256.7	0.781E 02	-2.0	0.106E-02	3.2
51000	255.1	0.685E 02	-2.7	0.935E-03	3.0
52000	260.0	0.601E 02	-3.3	0.805E-03	0.4
53000	261.0	0.527E 02	-3.9	0.705E-03	-0.7
54000	261.9	0.465E 02	-4.0	0.618E-03	-2.1
55000	258.2	0.407E 02	-4.5	0.551E-03	-1.7
56000	256.3	0.358E 02	-4.7	0.487E-03	-2.1
57000	252.1	0.314E 02	-5.0	0.434E-03	-1.6
58000	247.1	0.274E 02	-5.7	0.387E-03	-0.9

Table 17—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
59000	247.0	0.239E 02	-6.2	0.338E-03	-2.2
60000	240.1	0.209E 02	-6.8	0.303E-03	-0.9
61000	235.8	0.181E 02	-7.9	0.268E-03	-0.8
62000	234.2	0.157E 02	-8.8	0.234E-03	-2.2
63000	228.0	0.135E 02	-9.8	0.208E-03	-2.1
64000	223.3	0.117E 02	-10.7	0.183E-03	-2.8
65000	224.0	0.100E 02	-11.8	0.157E-03	-5.8
66000	224.5	0.870E 01	-12.4	0.135E-03	-8.2
67000	219.1	0.749E 01	-13.0	0.119E-03	-8.1
68000	214.8	0.641E 01	-13.8	0.104E-03	-8.7
69000	205.7	0.546E 01	-14.8	0.926E-04	-7.4
70000	210.6	0.465E 01	-15.7	0.770E-04	-12.0
71000	216.4	0.398E 01	-15.8	0.641E-04	-16.1
72000	220.8	0.341E 01	-15.7	0.539E-04	-19.0
73000	224.7	0.294E 01	-14.7	0.456E-04	-21.2
74000	226.6	0.253E 01	-13.7	0.390E-04	-22.2
75000	221.9	0.218E 01	-12.2	0.343E-04	-20.8
76000	225.4	0.187E 01	-10.7	0.291E-04	-22.1
77000	219.7	0.162E 01	-8.2	0.257E-04	-19.9
78000	217.3	0.138E 01	-6.8	0.223E-04	-18.9
79000	217.6	0.119E 01	-4.0	0.191E-04	-18.6
80000	214.6	0.102E 01	-1.4	0.166E-04	-16.9
81000	206.9	0.873E 00	1.2	0.147E-04	-11.5
82000	202.0	0.742E 00	3.5	0.128E-04	-7.3
83000	201.2	0.629E 00	5.5	0.109E-04	-5.2
84000	201.5	0.533E 00	7.5	0.922E-05	-3.5
85000	209.9	0.454E 00	10.1	0.753E-05	-5.3
86000	206.6	0.386E 00	12.6	0.652E-05	-1.4
87000	203.5	0.329E 00	15.3	0.563E-05	2.2
88000	196.8	0.278E 00	17.3	0.493E-05	7.6
89000	196.0	0.234E 00	18.7	0.418E-05	9.7
90000	199.0	0.198E 00	20.8	0.348E-05	9.7
91000	198.7	0.167E 00	22.5	0.295E-05	13.5
92000	194.7	0.142E 00	24.5	0.254E-05	18.8
93000	190.1	0.119E 00	24.5	0.219E-05	24.2
94000	196.8	0.100E 00	24.5	0.178E-05	22.0
95000	199.0	0.851E-01	25.2	0.149E-05	23.0
96000	194.1	0.718E-01	24.9	0.129E-05	27.9
97000	191.6	0.605E-01	24.2	0.110E-05	30.7
98000	194.5	0.509E-01	23.0	0.913E-06	29.6
99000	190.7	0.429E-01	21.8	0.784E-06	32.6
100000	200.1	0.362E-01	20.5	0.630E-06	26.6
101000	209.9	0.307E-01	19.5	0.511E-06	22.8
102000	215.6	0.263E-01	19.3	0.426E-06	21.9
103000	211.6	0.226E-01	18.8	0.372E-06	26.3
104000	205.4	0.193E-01	17.1	0.327E-06	31.2
105000	204.1	0.163E-01	14.4	0.280E-06	32.2
106000	204.2	0.139E-01	12.3	0.238E-06	31.9
107000	203.6	0.118E-01	9.0	0.203E-06	31.5
108000	203.0	0.100E-01	5.9	0.173E-06	30.7
109000	207.7	0.858E-02	2.7	0.144E-06	26.4
110000	227.1	0.737E-02	0.2	0.113E-06	14.9
111000	259.3	0.642E-02	-1.0	0.863E-07	3.2
112000	298.5	0.570E-02	-0.9	0.666E-07	-6.8
113000	332.3	0.514E-02	0.2	0.539E-07	-12.4
114000	355.2	0.466E-02	1.6	0.458E-07	-13.9
115000	368.6	0.426E-02	3.4	0.403E-07	-12.8
116000	380.0	0.390E-02	5.1	0.358E-07	-11.2
117000	391.4	0.358E-02	6.8	0.319E-07	-9.7
118000	406.3	0.330E-02	8.6	0.283E-07	-9.0
119000	423.1	0.305E-02	10.3	0.251E-07	-8.6
120000	437.3	0.282E-02	12.0	0.225E-07	-7.6
121000	454.6	0.262E-02	13.8	0.201E-07	-4.8
122000	467.5	0.243E-02	15.0	0.182E-07	-1.3
123000	487.3	0.227E-02	16.4	0.163E-07	0.5
124000	502.1	0.213E-02	17.5	0.148E-07	3.2
125000	520.0	0.199E-02	18.5	0.134E-07	5.0

Table 18—Pitot data, Wallops Island, Mar. 7, 1970, 1841 GMT.

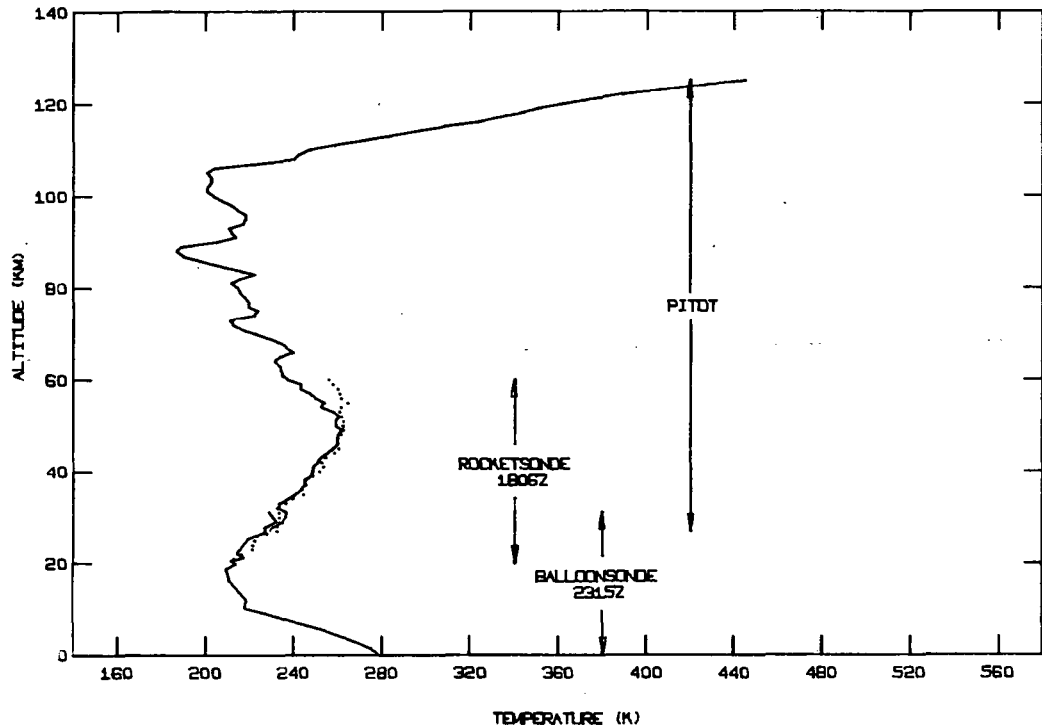


ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
30000	229.8	0.118E 04	-0.7	0.180E-01	-2.2
31000	228.8	0.102E 04	-0.5	0.156E-01	-1.2
32000	229.8	0.883E 03	-0.5	0.134E-01	-1.1
33000	233.4	0.763E 03	-0.4	0.114E-01	-1.4
34000	236.2	0.661E 03	-0.3	0.975E-02	-1.3
35000	242.4	0.574E 03	-0.0	0.825E-02	-2.5
36000	243.5	0.499E 03	0.2	0.715E-02	-1.4
37000	239.9	0.434E 03	0.3	0.631E-02	1.1
38000	245.6	0.378E 03	0.3	0.536E-02	-0.1
39000	245.2	0.329E 03	0.1	0.468E-02	1.1
40000	251.2	0.287E 03	0.2	0.399E-02	-0.1
41000	253.2	0.251E 03	0.3	0.346E-02	0.1
42000	248.8	0.219E 03	-0.0	0.308E-02	2.8
43000	252.8	0.191E 03	-0.5	0.265E-02	1.9

Table 18—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
44000	255.1	0.167E 03	-0.9	0.230E-02	1.8
45000	255.9	0.147E 03	-0.7	0.201E-02	2.2
46000	254.7	0.129E 03	-1.4	0.177E-02	3.2
47000	254.8	0.113E 03	-2.1	0.155E-02	3.5
48000	256.3	0.993E 02	-2.9	0.135E-02	2.5
49000	259.5	0.871E 02	-3.4	0.117E-02	0.6
50000	253.5	0.763E 02	-4.2	0.105E-02	2.2
51000	255.2	0.669E 02	-5.0	0.914E-03	0.7
52000	261.9	0.587E 02	-5.5	0.782E-03	-2.3
84000	213.9	0.526E 00	6.1	0.858E-05	-10.2
85000	211.9	0.450E 00	9.2	0.741E-05	-6.8
86000	212.3	0.385E 00	12.2	0.632E-05	-4.4
87000	207.1	0.329E 00	15.3	0.553E-05	0.4
88000	202.4	0.279E 00	17.8	0.481E-05	5.0
89000	200.9	0.237E 00	20.0	0.411E-05	7.8
90000	200.5	0.201E 00	22.4	0.349E-05	10.0
91000	197.3	0.170E 00	24.5	0.300E-05	15.4
92000	196.1	0.143E 00	25.7	0.255E-05	19.3
93000	199.5	0.121E 00	26.5	0.212E-05	20.2
94000	201.4	0.102E 00	27.5	0.178E-05	22.0
95000	201.4	0.873E-01	28.3	0.151E-05	24.6
96000	198.1	0.739E-01	28.7	0.130E-05	28.9
97000	198.0	0.625E-01	28.3	0.110E-05	30.7
98000	198.4	0.529E-01	27.8	0.928E-06	31.7
99000	208.5	0.447E-01	27.0	0.749E-06	26.7
100000	215.2	0.383E-01	27.6	0.621E-06	24.8
101000	213.4	0.329E-01	27.8	0.537E-06	29.1
102000	206.5	0.281E-01	27.1	0.474E-06	35.6
103000	197.7	0.238E-01	25.1	0.420E-06	42.6
104000	195.5	0.201E-01	21.9	0.359E-06	44.0
105000	192.1	0.169E-01	18.2	0.308E-06	45.4
106000	187.6	0.142E-01	14.4	0.265E-06	46.8
107000	185.0	0.119E-01	9.8	0.225E-06	45.8
108000	190.8	0.100E-01	5.2	0.183E-06	38.3
109000	203.6	0.847E-02	1.4	0.145E-06	27.3
110000	225.8	0.726E-02	-1.2	0.112E-06	13.9
111000	264.5	0.634E-02	-2.3	0.836E-07	0.0
112000	295.5	0.563E-02	-2.1	0.665E-07	-7.0
113000	316.9	0.506E-02	-1.3	0.557E-07	-9.4
114000	329.3	0.457E-02	-0.4	0.484E-07	-9.0
115000	334.0	0.414E-02	0.5	0.432E-07	-6.5
116000	321.6	0.374E-02	0.8	0.406E-07	0.6
117000	323.0	0.338E-02	0.8	0.365E-07	3.2
118000	326.8	0.305E-02	0.3	0.326E-07	4.7
119000	332.5	0.277E-02	0.2	0.290E-07	5.5
120000	338.8	0.250E-02	-0.6	0.258E-07	5.9
121000	346.8	0.227E-02	-1.1	0.229E-07	8.4
122000	356.2	0.207E-02	-1.9	0.203E-07	10.0
123000	368.8	0.189E-02	-3.3	0.179E-07	10.4
124000	382.8	0.173E-02	-4.4	0.158E-07	10.1
125000	391.2	0.159E-02	-5.1	0.142E-07	11.3

Table 19—Pitot data, Wallops Island, Mar. 8, 1970, 1725 GMT.



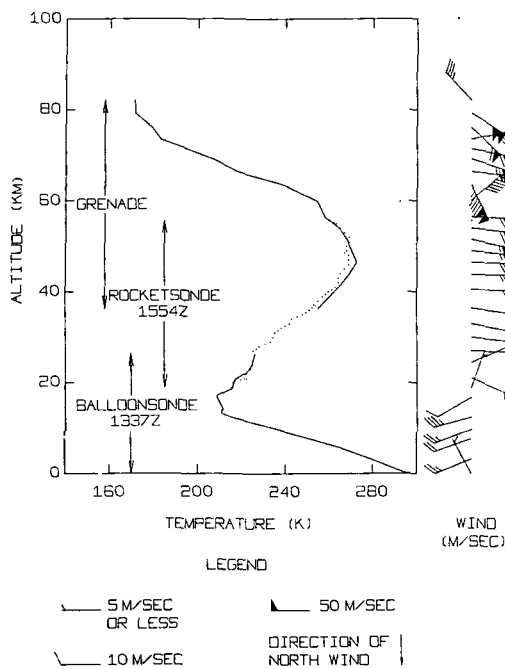
ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
27000	229.8	0.182E 04	-2.8	0.276E-01	-5.8
28000	232.0	0.157E 04	-2.6	0.236E-01	-5.9
29000	235.6	0.135E 04	-2.1	0.201E-01	-6.4
30000	237.3	0.117E 04	-1.5	0.173E-01	-6.0
31000	237.4	0.102E 04	-0.8	0.150E-01	-5.0
32000	233.7	0.861E 03	-3.1	0.132E-01	-2.6
33000	234.3	0.766E 03	-0.1	0.114E-01	-1.4
34000	238.7	0.665E 03	0.2	0.970E-02	-1.8
35000	241.6	0.577E 03	0.4	0.832E-02	-1.6
36000	244.4	0.502E 03	0.8	0.716E-02	-1.3
37000	245.8	0.437E 03	0.9	0.620E-02	-0.5
38000	245.6	0.381E 03	1.0	0.541E-02	0.8
39000	248.8	0.333E 03	1.3	0.466E-02	0.7
40000	249.4	0.290E 03	1.2	0.406E-02	1.6
41000	249.8	0.253E 03	0.8	0.354E-02	2.4
42000	251.8	0.222E 03	1.1	0.307E-02	2.5
43000	253.3	0.194E 03	0.8	0.267E-02	2.7
44000	256.4	0.170E 03	0.6	0.231E-02	2.2
45000	258.6	0.149E 03	0.1	0.201E-02	2.2
46000	260.8	0.131E 03	-0.2	0.175E-02	2.1
47000	260.5	0.115E 03	-0.6	0.154E-02	2.8
48000	261.1	0.101E 03	-1.1	0.135E-02	2.5
49000	262.7	0.890E 02	-1.4	0.118E-02	1.4
50000	259.5	0.782E 02	-1.9	0.105E-02	2.2
51000	259.5	0.686E 02	-2.5	0.922E-03	1.6
52000	261.1	0.603E 02	-2.9	0.805E-03	0.4
53000	258.4	0.530E 02	-3.4	0.715E-03	0.6
54000	253.1	0.465E 02	-4.0	0.640E-03	1.3
55000	254.7	0.407E 02	-4.5	0.557E-03	-0.6
56000	250.4	0.357E 02	-5.1	0.496E-03	-0.3
57000	247.9	0.311E 02	-5.8	0.438E-03	-0.7
58000	243.5	0.271E 02	-6.6	0.389E-03	-0.4

Table 19—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
59000	244.3	0.237E 02	-7.2	0.338E-03	-2.2
60000	237.9	0.206E 02	-8.0	0.302E-03	-1.2
61000	235.3	0.178E 02	-9.2	0.265E-03	-1.9
62000	234.9	0.154E 02	-10.3	0.230E-03	-3.8
63000	234.3	0.134E 02	-10.7	0.200E-03	-5.8
64000	232.0	0.116E 02	-11.3	0.175E-03	-7.1
65000	234.5	0.101E 02	-11.7	0.150E-03	-10.0
66000	240.7	0.877E 01	-11.7	0.127E-03	-13.6
67000	237.2	0.762E 01	-11.4	0.112E-03	-13.5
68000	235.2	0.662E 01	-11.0	0.980E-04	-14.0
69000	229.8	0.573E 01	-10.7	0.869E-04	-13.1
70000	223.7	0.494E 01	-10.4	0.770E-04	-12.0
71000	218.0	0.425E 01	-10.1	0.679E-04	-11.1
72000	213.0	0.363E 01	-10.1	0.595E-04	-10.6
73000	211.6	0.310E 01	-10.0	0.512E-04	-11.5
74000	223.2	0.266E 01	-9.2	0.415E-04	-17.2
75000	224.8	0.229E 01	-7.9	0.355E-04	-18.1
76000	220.0	0.197E 01	-6.2	0.312E-04	-16.4
77000	220.1	0.169E 01	-4.5	0.268E-04	-16.5
78000	218.4	0.145E 01	-2.3	0.232E-04	-15.6
79000	216.4	0.124E 01	0.4	0.201E-04	-14.4
80000	215.2	0.106E 01	3.0	0.173E-04	-13.4
81000	212.3	0.914E 00	6.0	0.150E-04	-9.7
82000	216.3	0.782E 00	9.1	0.126E-04	-8.8
83000	223.4	0.673E 00	12.9	0.105E-04	-8.6
84000	214.4	0.578E 00	16.6	0.940E-05	-1.7
85000	205.0	0.493E 00	19.5	0.839E-05	5.4
86000	197.0	0.418E 00	21.9	0.740E-05	11.8
87000	190.4	0.353E 00	23.7	0.645E-05	17.1
88000	187.7	0.295E 00	24.6	0.549E-05	19.8
89000	189.8	0.247E 00	25.4	0.455E-05	19.4
90000	205.4	0.209E 00	27.2	0.355E-05	11.9
91000	214.7	0.178E 00	30.3	0.290E-05	11.6
92000	212.4	0.153E 00	33.8	0.251E-05	17.4
93000	210.9	0.130E 00	36.2	0.216E-05	22.5
94000	218.0	0.112E 00	38.9	0.179E-05	22.6
95000	219.2	0.963E-01	41.7	0.153E-05	26.3
96000	218.4	0.827E-01	44.0	0.132E-05	30.9
97000	215.2	0.710E-01	45.8	0.115E-05	36.6
98000	212.0	0.609E-01	47.2	0.100E-05	41.9
99000	207.7	0.519E-01	47.5	0.871E-06	47.3
100000	204.0	0.442E-01	47.1	0.755E-06	51.7
101000	201.2	0.375E-01	45.9	0.650E-06	56.2
102000	201.7	0.318E-01	44.0	0.550E-06	57.4
103000	203.1	0.270E-01	41.8	0.464E-06	57.5
104000	202.8	0.230E-01	39.7	0.395E-06	58.5
105000	201.1	0.194E-01	35.9	0.338E-06	59.6
106000	204.6	0.165E-01	32.6	0.282E-06	56.3
107000	225.4	0.141E-01	29.8	0.219E-06	41.9
108000	241.0	0.123E-01	29.3	0.178E-06	34.5
109000	243.0	0.107E-01	28.5	0.154E-06	35.2
110000	247.7	0.938E-02	27.6	0.132E-06	34.2
111000	258.6	0.823E-02	26.8	0.111E-06	32.7
112000	271.9	0.727E-02	26.3	0.932E-07	30.2
113000	283.0	0.646E-02	25.9	0.795E-07	29.2
114000	295.2	0.575E-02	25.4	0.680E-07	27.7
115000	307.6	0.517E-02	25.4	0.585E-07	26.5
116000	323.5	0.465E-02	25.2	0.501E-07	24.1
117000	333.2	0.421E-02	25.5	0.440E-07	24.4
118000	342.8	0.381E-02	25.2	0.388E-07	24.6
119000	350.6	0.347E-02	25.7	0.345E-07	25.5
120000	362.7	0.317E-02	25.7	0.304E-07	24.7
121000	374.9	0.289E-02	25.3	0.269E-07	27.3
122000	388.8	0.265E-02	25.0	0.238E-07	29.0
123000	405.6	0.243E-02	24.5	0.210E-07	29.5
124000	425.4	0.226E-02	24.9	0.185E-07	29.0
125000	445.0	0.209E-02	24.1	0.164E-07	28.6

Table 20—Rocket grenade data, Wallops Island, June 22, 1970, 1600 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
36390.2	255.5	0.7	19.3	0.5	98.1	3.2
40469.6	263.8	0.6	28.3	0.4	91.3	1.8
43803.6	269.6	0.7	34.5	0.5	90.9	1.9
46422.6	272.9	0.8	41.3	0.7	90.9	1.9
49979.4	270.6	1.1	53.8	1.0	95.6	2.0
51520.1	268.4	1.4	56.8	1.3	102.7	2.3
54013.3	264.8	1.4	58.5	1.4	96.3	2.6
55453.0	258.2	1.3	58.1	1.4	91.9	2.6
60034.0	254.7	0.7	90.5	1.2	48.4	0.8
63561.5	239.6	1.5	146.1	2.9	154.0	0.8
66419.8	218.9	0.9	55.3	1.3	95.9	2.4
69215.7	207.0	1.6	66.5	2.7	108.5	3.6
71399.3	195.2	1.6	57.7	2.8	100.7	4.8
73537.9	183.3	1.4	69.0	2.5	78.1	3.9
76157.8	179.0	1.1	59.4	3.0	133.9	2.6
79225.7	171.7	1.4	102.2	3.6	122.0	2.4
82111.2	171.3	1.8	34.0	6.0	317.7	8.1



WIND COMPONENTS
M/SEC

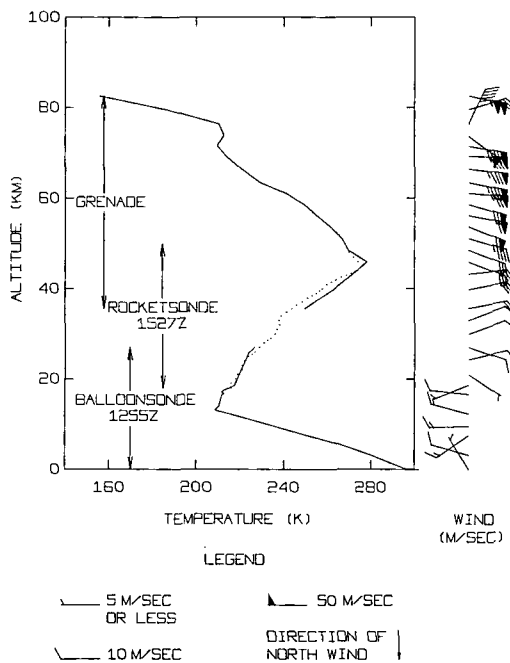
ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
38000	1.9	-22.7
40000	0.9	-27.2
42000	0.6	-31.1
44000	0.5	-35.1
46000	0.7	-40.4
48000	3.5	-48.9
50000	8.2	-54.3
52000	11.0	-55.9
54000	6.6	-57.8
56000	1.6	-58.3
58000	-24.8	-62.3
60000	-42.7	-66.8
62000	46.6	-65.6
64000	104.3	-62.4
66000	28.3	-56.8
68000	14.4	-59.6
70000	17.3	-60.7
72000	3.4	-60.1
74000	-2.0	-62.1
76000	34.9	-48.4
78000	49.0	-69.0
80000	32.5	-56.5
82000	-22.1	18.6

Table 20—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
37000	256.8	0.495E 03	14.4	0.672E-02	7.8
38000	258.8	0.434E 03	15.2	0.584E-02	8.9
39000	260.8	0.381E 03	16.0	0.509E-02	10.1
40000	262.8	0.335E 03	16.9	0.445E-02	11.3
41000	264.7	0.295E 03	17.7	0.388E-02	12.5
42000	266.4	0.260E 03	18.2	0.340E-02	13.5
43000	268.2	0.229E 03	18.7	0.297E-02	14.5
44000	269.8	0.202E 03	19.3	0.261E-02	15.6
45000	271.1	0.178E 03	19.7	0.229E-02	16.7
46000	272.3	0.157E 03	20.2	0.201E-02	17.7
47000	272.3	0.139E 03	20.4	0.178E-02	19.2
48000	271.5	0.123E 03	20.5	0.158E-02	20.1
49000	270.6	0.108E 03	20.5	0.140E-02	20.5
50000	269.7	0.962E 02	20.5	0.124E-02	20.9
51000	268.9	0.849E 02	20.5	0.109E-02	21.2
52000	267.7	0.749E 02	20.3	0.974E-03	21.6
53000	266.3	0.660E 02	20.2	0.864E-03	21.7
54000	264.9	0.582E 02	20.0	0.765E-03	21.2
55000	262.2	0.512E 02	19.9	0.681E-03	21.5
56000	259.4	0.450E 02	19.7	0.605E-03	21.6
57000	257.7	0.395E 02	19.4	0.535E-03	21.3
58000	256.7	0.347E 02	19.2	0.471E-03	20.6
59000	255.7	0.304E 02	19.0	0.415E-03	19.9
60000	254.7	0.267E 02	18.9	0.365E-03	19.4
61000	250.5	0.234E 02	18.9	0.325E-03	20.4
62000	246.3	0.205E 02	19.0	0.290E-03	21.3
63000	242.0	0.179E 02	18.8	0.257E-03	21.3
64000	236.4	0.155E 02	18.5	0.229E-03	21.8
65000	229.1	0.135E 02	17.9	0.205E-03	23.1
66000	221.8	0.115E 02	16.5	0.181E-03	23.7
67000	216.3	0.994E 01	15.5	0.160E-03	23.5
68000	212.1	0.854E 01	14.7	0.140E-03	23.0
69000	207.9	0.727E 01	13.3	0.121E-03	21.8
70000	202.7	0.619E 01	12.1	0.106E-03	21.5
71000	197.3	0.523E 01	10.5	0.923E-04	20.8
72000	191.8	0.441E 01	8.9	0.800E-04	20.2
73000	186.3	0.369E 01	7.0	0.691E-04	19.4
74000	182.6	0.308E 01	4.9	0.587E-04	17.2
75000	180.9	0.256E 01	3.0	0.493E-04	13.9
76000	179.3	0.212E 01	1.1	0.413E-04	10.7
77000	177.0	0.176E 01	-0.2	0.347E-04	8.3
78000	174.6	0.146E 01	-1.5	0.292E-04	6.2
79000	172.3	0.120E 01	-3.0	0.243E-04	3.8
80000	171.6	0.993E 00	-4.1	0.201E-04	0.9
81000	171.4	0.818E 00	-5.0	0.166E-04	0.0
82000	171.3	0.674E 00	-5.9	0.137E-04	-0.7

Table 21—Rocket grenade data, Wallops Island, June 25, 1970, 1537 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
35656.2	250.0	0.9	19.5	0.7	79.4	3.9
39828.3	263.3	0.8	28.6	0.6	79.0	2.5
43233.6	272.1	1.0	36.4	0.8	84.1	2.5
45899.5	278.5	1.0	31.8	0.9	110.8	2.6
48527.6	269.8	0.9	31.6	0.9	111.3	2.6
51120.3	266.7	0.8	43.5	0.8	106.7	1.8
53665.7	261.7	0.8	58.6	0.9	111.4	1.5
56169.1	255.4	0.9	57.7	1.0	100.8	1.8
58635.9	249.6	0.9	68.0	1.2	106.0	1.7
61076.1	241.3	1.1	72.6	1.4	94.4	2.1
63479.8	229.4	1.1	86.8	1.5	101.4	1.8
66453.3	220.9	0.7	87.0	1.0	96.7	1.2
69335.9	213.9	1.1	80.4	1.6	92.5	2.3
71549.1	210.1	1.1	88.7	1.8	100.7	2.1
73761.8	213.0	1.3	49.3	3.0	126.7	3.8
76468.6	210.5	0.9	43.6	2.7	25.3	2.5
79635.2	186.5	0.9	43.8	1.8	73.7	4.4
82630.9	156.0	0.9	105.2	2.2	102.0	2.1



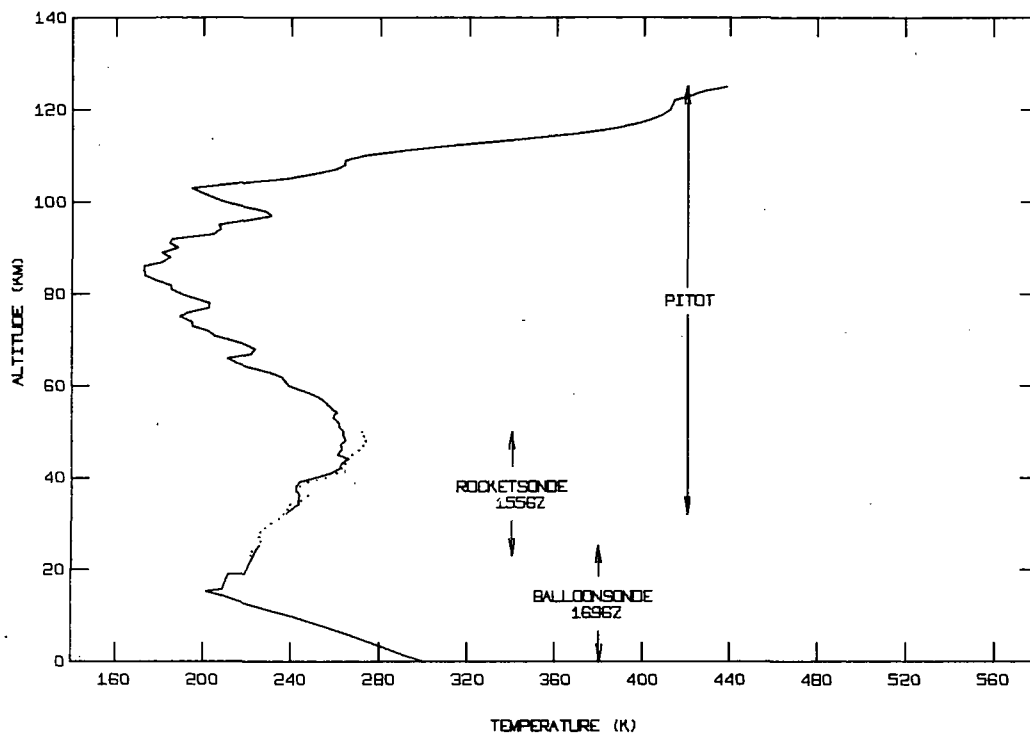
WIND COMPONENTS
M/SEC

ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
36000	-3.7	-19.9
38000	-4.6	-24.1
40000	-5.1	-28.5
42000	-4.3	-33.3
44000	0.6	-34.3
46000	10.1	-30.2
48000	11.5	-29.8
50000	12.1	-36.4
52000	15.6	-46.1
54000	19.1	-54.4
56000	12.8	-57.0
58000	16.4	-63.1
60000	11.3	-69.3
62000	10.0	-77.2
64000	15.6	-85.0
66000	11.2	-86.0
68000	6.6	-83.2
70000	7.6	-82.6
72000	19.1	-75.6
74000	18.9	-39.7
76000	-25.0	-23.3
78000	-26.3	-29.9
80000	-7.8	-50.7
82000	14.7	-90.1

Table 21—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
36000	251.1	0.558E 03	12.0	0.774E-02	6.7
37000	254.3	0.488E 03	12.6	0.668E-02	7.1
38000	257.5	0.427E 03	13.2	0.577E-02	7.6
39000	260.7	0.375E 03	14.2	0.502E-02	8.5
40000	263.7	0.330E 03	15.1	0.436E-02	9.2
41000	266.3	0.290E 03	15.8	0.380E-02	10.0
42000	268.9	0.256E 03	16.4	0.331E-02	10.7
43000	271.5	0.226E 03	17.2	0.290E-02	11.6
44000	274.0	0.199E 03	17.9	0.254E-02	12.5
45000	276.4	0.176E 03	18.6	0.222E-02	13.3
46000	278.2	0.156E 03	19.3	0.196E-02	14.5
47000	274.9	0.138E 03	19.8	0.176E-02	17.6
48000	271.5	0.122E 03	19.9	0.157E-02	19.5
49000	269.2	0.108E 03	19.9	0.140E-02	20.5
50000	268.0	0.956E 02	19.9	0.124E-02	21.0
51000	266.9	0.843E 02	19.6	0.110E-02	21.3
52000	265.0	0.743E 02	19.4	0.977E-03	22.0
53000	263.0	0.654E 02	19.1	0.867E-03	22.0
54000	260.8	0.575E 02	18.7	0.769E-03	21.7
55000	258.3	0.506E 02	18.4	0.682E-03	21.7
56000	255.8	0.444E 02	17.9	0.604E-03	21.5
57000	253.4	0.389E 02	17.5	0.535E-03	21.3
58000	251.1	0.340E 02	17.0	0.473E-03	21.0
59000	248.3	0.298E 02	16.5	0.418E-03	20.8
60000	244.9	0.260E 02	15.9	0.370E-03	21.1
61000	241.6	0.226E 02	15.1	0.326E-03	20.9
62000	236.7	0.197E 02	14.4	0.290E-03	21.3
63000	231.8	0.170E 02	13.3	0.256E-03	20.9
64000	227.9	0.147E 02	12.3	0.225E-03	19.8
65000	225.0	0.127E 02	11.3	0.197E-03	18.3
66000	222.2	0.109E 02	10.2	0.171E-03	16.7
67000	219.6	0.941E 01	9.3	0.149E-03	15.2
68000	217.1	0.809E 01	8.7	0.129E-03	13.9
69000	214.7	0.693E 01	8.0	0.112E-03	12.4
70000	212.8	0.593E 01	7.4	0.971E-04	10.9
71000	211.1	0.506E 01	7.0	0.836E-04	9.3
72000	210.7	0.432E 01	6.7	0.714E-04	7.3
73000	212.0	0.369E 01	6.8	0.606E-04	4.7
74000	212.8	0.315E 01	7.4	0.516E-04	3.0
75000	211.9	0.269E 01	8.3	0.443E-04	2.3
76000	210.9	0.230E 01	9.4	0.380E-04	1.8
77000	206.5	0.196E 01	10.8	0.331E-04	3.3
78000	198.9	0.167E 01	12.8	0.293E-04	6.8
79000	191.3	0.140E 01	13.0	0.255E-04	8.9
80000	182.8	0.117E 01	13.4	0.224E-04	12.1
81000	172.6	0.984E 00	14.2	0.198E-04	19.5
82000	162.5	0.800E 00	11.7	0.171E-04	24.2

Table 22—Pitot data, Wallops Island, Aug. 3, 1970, 1609 GMT.



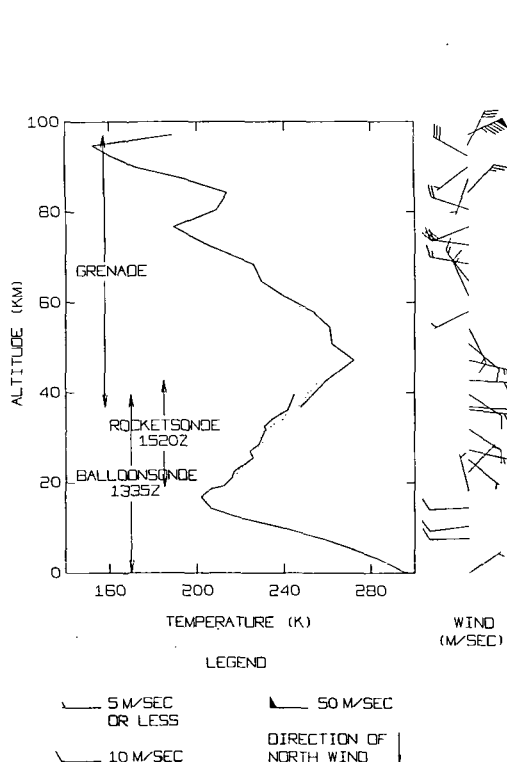
ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
32000	238.1	0.963E 03	8.3	0.141E-01	3.9
33000	241.0	0.837E 03	9.0	0.121E-01	4.5
34000	244.0	0.729E 03	9.9	0.104E-01	5.1
35000	244.1	0.634E 03	10.4	0.905E-02	6.9
36000	244.5	0.551E 03	10.7	0.787E-02	8.4
37000	242.7	0.481E 03	11.0	0.690E-02	10.6
38000	239.0	0.418E 03	10.9	0.609E-02	13.4
39000	244.9	0.363E 03	10.6	0.517E-02	11.7
40000	251.7	0.317E 03	10.5	0.439E-02	9.8
41000	258.9	0.279E 03	10.9	0.374E-02	8.2
42000	262.6	0.243E 03	10.8	0.324E-02	8.1
43000	263.6	0.214E 03	11.1	0.284E-02	9.2
44000	266.7	0.189E 03	11.6	0.247E-02	9.3
45000	261.3	0.166E 03	11.7	0.222E-02	12.9
46000	263.1	0.146E 03	11.6	0.194E-02	13.1
47000	262.6	0.128E 03	11.2	0.171E-02	14.2
48000	265.2	0.113E 03	10.8	0.149E-02	13.1
49000	263.7	0.999E 02	10.6	0.132E-02	13.4
50000	264.2	0.807E 02	1.2	0.116E-02	12.9
51000	262.0	0.774E 02	9.9	0.103E-02	13.5
52000	261.4	0.681E 02	9.4	0.908E-03	13.3
53000	259.4	0.598E 02	8.9	0.804E-03	13.1
54000	261.1	0.526E 02	8.5	0.702E-03	11.1
55000	258.5	0.462E 02	8.1	0.623E-03	11.0
56000	256.6	0.405E 02	7.6	0.551E-03	10.7
57000	254.5	0.355E 02	7.3	0.487E-03	10.3
58000	250.7	0.311E 02	7.0	0.433E-03	10.7
59000	245.0	0.271E 02	6.2	0.387E-03	11.8
60000	239.2	0.237E 02	5.6	0.345E-03	12.7

Table 22—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
61000	237.4	0.205E 02	4.2	0.302E-03	11.7
62000	235.7	0.178E 02	3.5	0.264E-03	10.3
63000	230.3	0.154E 02	2.5	0.234E-03	10.1
64000	221.2	0.133E 02	1.3	0.210E-03	11.4
65000	215.3	0.114E 02	-0.1	0.185E-03	10.9
66000	211.6	0.978E 01	-1.5	0.161E-03	9.4
67000	222.7	0.837E 01	-2.8	0.131E-03	1.0
68000	224.4	0.721E 01	-3.1	0.112E-03	-1.7
69000	219.8	0.621E 01	-3.2	0.984E-04	-1.6
70000	211.7	0.531E 01	-3.6	0.875E-04	-0.0
71000	205.5	0.453E 01	-4.2	0.768E-04	0.4
72000	202.7	0.385E 01	-4.8	0.661E-04	-0.7
73000	195.6	0.325E 01	-5.8	0.579E-04	0.0
74000	195.0	0.274E 01	-6.5	0.490E-04	-2.2
75000	190.0	0.230E 01	-7.3	0.423E-04	-2.4
76000	193.7	0.193E 01	-8.1	0.348E-04	-6.8
77000	203.4	0.163E 01	-7.5	0.280E-04	-12.7
78000	203.9	0.138E 01	-6.8	0.237E-04	-13.8
79000	196.6	0.117E 01	-5.5	0.208E-04	-11.4
80000	190.2	0.989E 00	-4.6	0.181E-04	-9.4
81000	186.1	0.827E 00	-3.9	0.155E-04	-6.7
82000	185.6	0.693E 00	-3.3	0.130E-04	-5.9
83000	179.3	0.577E 00	-3.1	0.112E-04	-2.6
84000	174.1	0.477E 00	-3.7	0.955E-05	-0.1
85000	173.7	0.394E 00	-4.3	0.790E-05	-0.6
86000	173.5	0.325E 00	-5.2	0.653E-05	-1.3
87000	182.5	0.269E 00	-5.6	0.515E-05	-6.4
88000	185.5	0.225E 00	-5.1	0.423E-05	-7.6
89000	181.4	0.187E 00	-4.8	0.361E-05	-5.2
90000	188.9	0.157E 00	-4.3	0.289E-05	-8.8
91000	185.1	0.131E 00	-4.1	0.247E-05	-4.9
92000	186.4	0.109E 00	-4.1	0.205E-05	-4.0
93000	205.2	0.925E-01	-3.6	0.157E-05	-10.9
94000	208.1	0.789E-01	-2.1	0.132E-05	-9.5
95000	207.1	0.671E-01	-1.2	0.113E-05	-6.6
96000	220.8	0.574E-01	-0.0	0.907E-06	-10.0
97000	231.2	0.497E-01	2.0	0.748E-06	-11.1
98000	228.4	0.430E-01	4.0	0.656E-06	-6.8
99000	218.6	0.370E-01	5.1	0.591E-06	-0.0
100000	209.3	0.317E-01	5.4	0.529E-06	6.3
101000	204.0	0.270E-01	5.0	0.462E-06	11.0
102000	199.1	0.229E-01	3.6	0.402E-06	15.0
103000	194.8	0.194E-01	2.0	0.347E-06	17.8
104000	214.6	0.163E-01	-0.6	0.267E-06	7.1
105000	238.5	0.142E-01	-0.3	0.208E-06	-1.7
106000	250.4	0.124E-01	-0.1	0.173E-06	-4.1
107000	260.8	0.109E-01	0.4	0.146E-06	-5.3
108000	264.4	0.963E-02	1.2	0.127E-06	-4.0
109000	264.7	0.851E-02	1.9	0.112E-06	-1.6
110000	273.1	0.753E-02	2.4	0.960E-07	-2.3
111000	289.9	0.669E-02	3.0	0.804E-07	-3.3
112000	309.3	0.599E-02	4.1	0.675E-07	-5.6
113000	329.0	0.539E-02	5.1	0.572E-07	-7.0
114000	352.1	0.490E-02	6.8	0.485E-07	-8.8
115000	372.2	0.447E-02	8.6	0.419E-07	-9.3
116000	387.5	0.410E-02	10.5	0.369E-07	-8.5
117000	397.2	0.377E-02	12.4	0.331E-07	-6.3
118000	403.6	0.347E-02	14.3	0.300E-07	-3.5
119000	409.0	0.321E-02	16.1	0.273E-07	-0.6
120000	412.2	0.295E-02	17.3	0.250E-07	2.6
121000	413.6	0.273E-02	18.4	0.230E-07	8.9
122000	414.5	0.251E-02	18.7	0.212E-07	14.9
123000	420.8	0.233E-02	19.1	0.193E-07	19.0
124000	427.0	0.215E-02	19.0	0.176E-07	22.7
125000	438.0	0.199E-02	18.5	0.159E-07	24.7

Table 23--Rocket grenade data, Wallops Island, Sept. 17, 1970, 1542 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
36793.0	248.2	0.7	11.3	0.5	92.9	5.5
42684.6	259.9	0.9	20.0	0.7	92.6	4.5
47124.4	272.4	1.3	14.2	1.1	103.1	8.6
50812.8	262.2	1.0	10.4	1.5	130.1	8.6
54412.7	261.3	0.9	15.4	1.7	154.1	4.0
57935.7	253.7	0.9	6.9	1.1	244.2	16.3
61370.7	239.9	0.8	13.1	2.4	336.7	5.9
64706.8	229.6	0.7	15.0	2.4	323.2	6.6
68475.7	226.0	0.5	17.3	1.1	280.8	6.8
72638.4	205.0	0.4	19.8	1.0	278.6	5.4
76648.4	189.3	0.3	28.7	0.9	248.8	3.3
80515.4	209.1	0.6	21.0	1.6	288.7	6.4
84227.1	214.2	0.8	25.8	2.6	42.8	6.5
87342.7	194.4	1.4	1.6	5.9	200.4	142.6
89909.3	172.5	1.5	6.7	5.0	232.4	60.2
92380.0	161.0	1.9	31.2	7.9	300.4	16.0
94757.2	152.9	2.3	30.3	12.3	26.5	16.5
97071.1	188.9	3.8	94.2	9.8	63.0	9.9



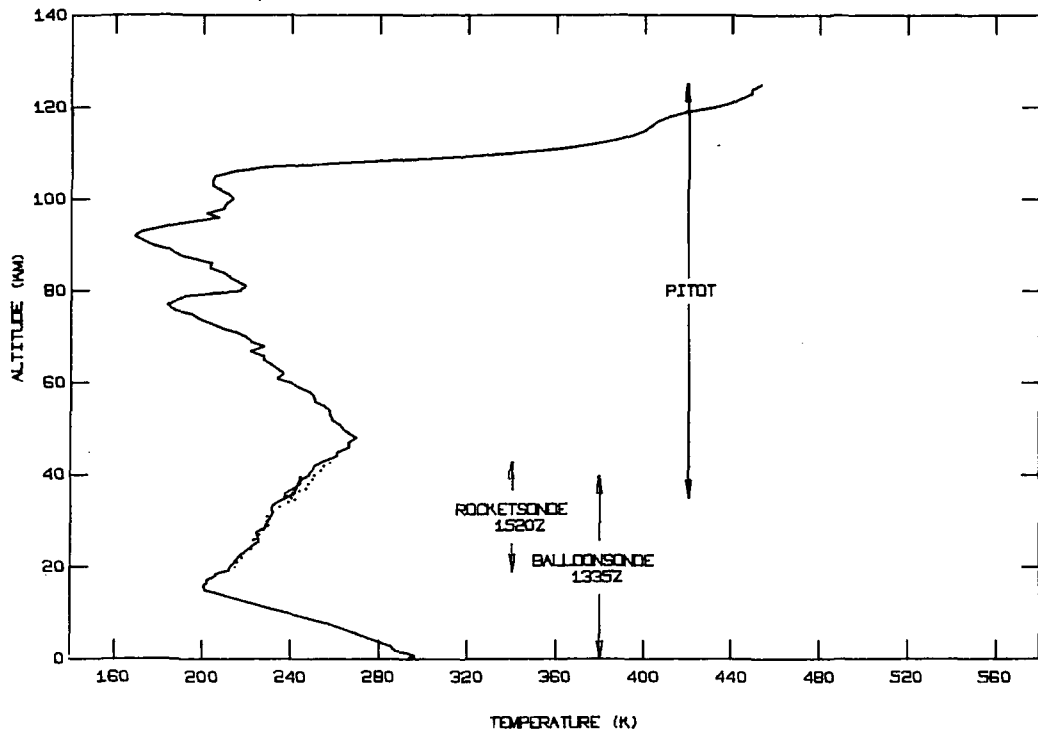
WIND COMPONENTS
M/SEC

ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
38000	0.6	-13.0
40000	0.7	-16.0
42000	0.9	-18.9
44000	1.6	-18.1
46000	2.6	-15.3
48000	4.0	-12.4
50000	5.9	-9.2
52000	9.0	-7.5
54000	12.6	-6.5
56000	8.9	-0.8
58000	2.4	5.3
60000	-6.0	5.6
62000	-11.9	5.9
64000	-12.0	8.2
66000	-9.0	11.7
68000	-4.5	15.9
70000	-3.1	17.9
72000	-2.9	19.2
74000	1.5	22.0
76000	7.9	25.5
78000	4.3	24.3
80000	-4.4	20.3
82000	-11.6	4.9
84000	-16.7	-12.9
86000	-7.2	-7.2
88000	2.0	1.6
90000	1.5	7.5
92000	-12.4	21.1
94000	-23.5	-0.8
96000	-35.4	-51.4

Table 23—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
37000	248.6	0.475E 03	9.7	0.666E-02	6.8
38000	250.6	0.415E 03	10.1	0.577E-02	7.5
39000	252.6	0.362E 03	10.2	0.499E-02	8.0
40000	254.6	0.316E 03	10.2	0.432E-02	8.3
41000	256.6	0.277E 03	10.6	0.377E-02	9.1
42000	258.5	0.243E 03	10.8	0.328E-02	9.7
43000	260.8	0.214E 03	11.0	0.286E-02	10.1
44000	263.6	0.188E 03	11.0	0.248E-02	10.1
45000	266.4	0.165E 03	10.9	0.216E-02	9.9
46000	269.3	0.145E 03	11.1	0.188E-02	10.1
47000	272.1	0.129E 03	11.3	0.165E-02	10.3
48000	270.0	0.114E 03	11.4	0.147E-02	11.7
49000	267.2	0.100E 03	11.5	0.131E-02	12.9
50000	264.5	0.886E 02	11.1	0.116E-02	13.7
51000	262.2	0.780E 02	10.7	0.103E-02	14.2
52000	261.9	0.686E 02	10.2	0.912E-03	13.9
53000	261.6	0.603E 02	9.8	0.803E-03	13.1
54000	261.4	0.530E 02	9.4	0.707E-03	12.0
55000	260.0	0.466E 02	9.2	0.625E-03	11.5
56000	257.8	0.410E 02	9.0	0.554E-03	11.4
57000	255.7	0.360E 02	8.6	0.490E-03	11.1
58000	253.4	0.315E 02	8.2	0.433E-03	10.9
59000	249.4	0.276E 02	8.0	0.386E-03	11.6
60000	245.4	0.241E 02	7.6	0.343E-03	12.1
61000	241.4	0.210E 02	6.7	0.303E-03	12.2
62000	238.0	0.182E 02	6.0	0.267E-03	11.8
63000	234.9	0.159E 02	5.4	0.235E-03	10.9
64000	231.8	0.137E 02	4.5	0.206E-03	9.7
65000	229.3	0.118E 02	3.8	0.180E-03	8.3
66000	228.3	0.102E 02	3.3	0.155E-03	6.5
67000	227.4	0.887E 01	3.0	0.135E-03	4.8
68000	226.5	0.765E 01	2.7	0.117E-03	3.2
69000	223.4	0.660E 01	2.8	0.102E-03	2.9
70000	218.3	0.569E 01	3.1	0.908E-04	3.8
71000	213.2	0.488E 01	3.1	0.797E-04	4.3
72000	208.2	0.414E 01	2.4	0.694E-04	4.2
73000	203.5	0.352E 01	2.1	0.603E-04	4.2
74000	199.6	0.299E 01	2.0	0.522E-04	4.2
75000	195.7	0.253E 01	1.8	0.451E-04	4.1
76000	191.8	0.212E 01	1.0	0.386E-04	3.3
77000	191.1	0.178E 01	0.5	0.325E-04	1.2
78000	196.2	0.149E 01	0.5	0.265E-04	-3.4
79000	201.3	0.126E 01	1.4	0.218E-04	-7.0
80000	206.4	0.107E 01	3.8	0.181E-04	-9.1
81000	209.7	0.918E 00	6.5	0.152E-04	-8.2
82000	211.1	0.783E 00	9.2	0.129E-04	-6.5
83000	212.5	0.669E 00	12.3	0.109E-04	-4.5
84000	213.8	0.573E 00	15.6	0.933E-05	-2.3
85000	209.3	0.490E 00	19.0	0.817E-05	2.7
86000	202.9	0.420E 00	22.5	0.721E-05	9.0
87000	196.6	0.354E 00	24.2	0.628E-05	14.1
88000	188.8	0.298E 00	25.8	0.551E-05	20.4
89000	180.3	0.250E 00	26.5	0.483E-05	26.8
90000	172.1	0.206E 00	25.5	0.417E-05	31.7
91000	167.4	0.170E 00	24.2	0.354E-05	36.3
92000	162.7	0.138E 00	21.3	0.297E-05	39.0
93000	158.9	0.113E 00	17.8	0.247E-05	40.5
94000	155.5	0.916E-01	13.5	0.205E-05	40.6
95000	156.7	0.737E-01	8.4	0.163E-05	35.3
96000	172.2	0.595E-01	3.6	0.120E-05	19.4
97000	187.8	0.499E-01	2.6	0.927E-06	10.1

Table 24—Pitot data, Wallops Island, Sept. 17, 1970, 1558 GMT.

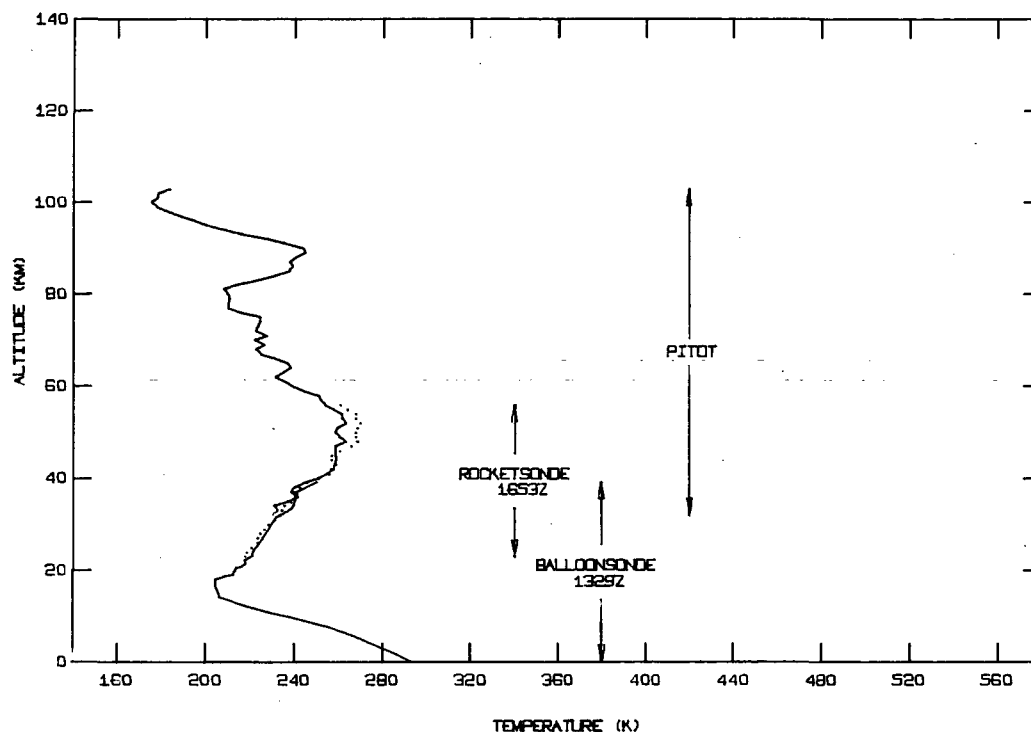


ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
35000	237.2	0.626E 03	9.0	0.919E-02	8.5
36000	237.8	0.542E 03	8.8	0.795E-02	9.5
37000	241.4	0.471E 03	8.9	0.680E-02	9.0
38000	244.6	0.410E 03	8.8	0.584E-02	8.8
39000	245.5	0.357E 03	8.6	0.507E-02	9.5
40000	249.0	0.311E 03	8.6	0.436E-02	9.1
41000	250.3	0.271E 03	8.2	0.379E-02	9.6
42000	251.3	0.238E 03	8.4	0.330E-02	10.1
43000	255.6	0.207E 03	7.7	0.284E-02	9.2
44000	261.1	0.182E 03	7.7	0.244E-02	8.0
45000	261.6	0.161E 03	8.1	0.214E-02	8.8
46000	266.6	0.141E 03	7.6	0.185E-02	7.9
47000	266.7	0.124E 03	7.6	0.163E-02	8.8
48000	270.0	0.110E 03	7.6	0.142E-02	7.8
49000	266.2	0.970E 02	7.4	0.127E-02	9.2
50000	263.7	0.855E 02	7.2	0.113E-02	10.0
51000	262.1	0.753E 02	6.8	0.100E-02	10.2
52000	259.1	0.661E 02	6.2	0.889E-03	10.9
53000	257.9	0.579E 02	5.5	0.784E-03	10.3
54000	257.5	0.509E 02	5.0	0.689E-03	9.1
55000	255.3	0.446E 02	4.4	0.610E-03	8.7
56000	251.1	0.391E 02	4.0	0.543E-03	9.1
57000	250.5	0.342E 02	3.3	0.476E-03	7.8
58000	248.8	0.299E 02	2.9	0.419E-03	7.1
59000	244.0	0.261E 02	2.0	0.373E-03	7.8
60000	240.2	0.227E 02	1.4	0.330E-03	7.8
61000	234.1	0.197E 02	0.1	0.294E-03	8.7
62000	236.8	0.171E 02	-0.3	0.252E-03	5.3

Table 24—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
63000	234.4	0.149E 02	-0.9	0.221E-03	3.9
64000	231.3	0.128E 02	-2.0	0.194E-03	2.9
65000	228.1	0.111E 02	-2.7	0.170E-03	1.9
66000	227.7	0.961E 01	-3.3	0.147E-03	-0.0
67000	221.9	0.827E 01	-3.8	0.130E-03	0.3
68000	228.2	0.714E 01	-4.0	0.109E-03	-4.3
69000	222.2	0.615E 01	-4.0	0.965E-04	-3.4
70000	219.7	0.529E 01	-4.1	0.839E-04	-4.1
71000	216.0	0.454E 01	-4.0	0.732E-04	-4.2
72000	209.2	0.387E 01	-4.2	0.646E-04	-2.9
73000	203.9	0.330E 01	-4.2	0.564E-04	-2.5
74000	198.3	0.279E 01	-4.7	0.491E-04	-2.0
75000	195.2	0.235E 01	-5.2	0.421E-04	-2.8
76000	187.5	0.198E 01	-5.6	0.368E-04	-1.4
77000	184.3	0.165E 01	-6.7	0.313E-04	-2.4
78000	188.2	0.138E 01	-6.8	0.256E-04	-6.9
79000	192.5	0.115E 01	-6.6	0.210E-04	-10.6
80000	216.9	0.983E 00	-5.1	0.158E-04	-20.9
81000	219.6	0.845E 00	-1.9	0.134E-04	-19.3
82000	216.0	0.725E 00	1.1	0.117E-04	-15.3
83000	212.0	0.621E 00	4.1	0.102E-04	-11.3
84000	209.4	0.530E 00	6.9	0.892E-05	-7.7
85000	203.1	0.451E 00	9.5	0.774E-05	-2.7
86000	204.2	0.383E 00	11.8	0.654E-05	-1.1
87000	197.2	0.325E 00	13.9	0.574E-05	4.2
88000	189.0	0.273E 00	15.0	0.504E-05	10.0
89000	185.5	0.229E 00	16.0	0.430E-05	12.8
90000	177.1	0.190E 00	15.9	0.375E-05	18.2
91000	172.7	0.157E 00	14.8	0.318E-05	22.4
92000	169.4	0.129E 00	13.3	0.267E-05	24.9
93000	172.2	0.106E 00	11.2	0.216E-05	22.5
94000	182.5	0.885E-01	9.7	0.169E-05	15.8
95000	192.9	0.742E-01	9.1	0.134E-05	10.6
96000	207.1	0.630E-01	9.6	0.106E-05	5.1
97000	201.8	0.535E-01	10.0	0.925E-06	9.9
98000	209.8	0.457E-01	10.4	0.758E-06	7.6
99000	211.0	0.390E-01	10.8	0.644E-06	8.9
100000	213.6	0.333E-01	10.7	0.544E-06	9.3
101000	211.5	0.285E-01	10.7	0.470E-06	13.0
102000	207.6	0.243E-01	10.2	0.409E-06	17.0
103000	204.2	0.207E-01	9.0	0.354E-06	20.2
104000	204.2	0.175E-01	5.6	0.301E-06	20.7
105000	205.1	0.150E-01	5.1	0.255E-06	20.4
106000	213.4	0.128E-01	2.8	0.209E-06	15.8
107000	228.5	0.110E-01	1.3	0.168E-06	8.8
108000	264.0	0.962E-02	1.0	0.127E-06	-4.0
109000	306.2	0.857E-02	2.5	0.975E-07	-14.3
110000	338.6	0.774E-02	5.3	0.796E-07	-19.0
111000	362.4	0.705E-02	8.5	0.677E-07	-19.0
112000	377.2	0.643E-02	11.7	0.595E-07	-16.8
113000	387.0	0.590E-02	15.0	0.532E-07	-13.5
114000	395.1	0.543E-02	18.4	0.479E-07	-9.9
115000	400.5	0.499E-02	21.2	0.435E-07	-5.9
116000	403.3	0.461E-02	24.1	0.398E-07	-1.3
117000	406.6	0.425E-02	26.7	0.364E-07	2.9
118000	411.2	0.391E-02	28.7	0.332E-07	6.6
119000	419.0	0.362E-02	31.0	0.301E-07	9.5
120000	432.4	0.334E-02	32.6	0.270E-07	10.8
121000	440.1	0.310E-02	34.6	0.246E-07	16.4
122000	444.7	0.287E-02	35.7	0.226E-07	22.5
123000	448.9	0.267E-02	36.8	0.208E-07	28.3
124000	449.7	0.249E-02	37.4	0.193E-07	34.5
125000	453.3	0.231E-02	37.5	0.178E-07	39.6

Table 25—Pitot data, Wallops Island, Sept. 21, 1970, 1614 GMT.

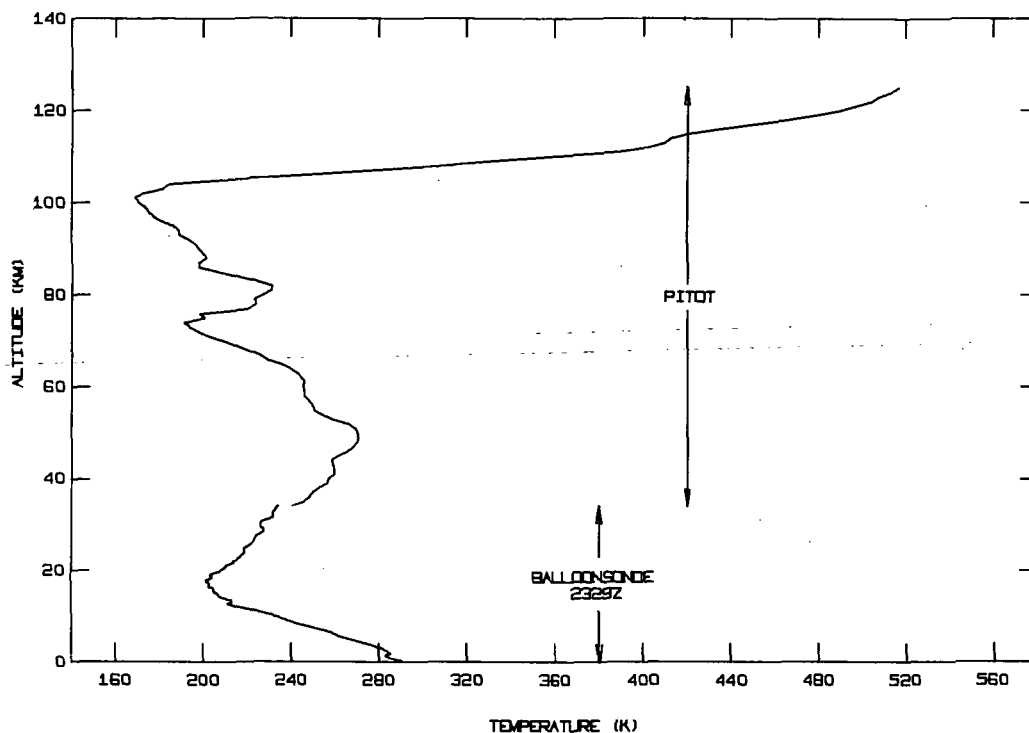


ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
32000	230.8	0.914E 03	2.8	0.138E-01	1.7
33000	233.3	0.790E 03	3.0	0.118E-01	1.9
34000	231.3	0.683E 03	3.0	0.103E-01	4.1
35000	237.5	0.591E 03	3.0	0.868E-02	2.5
36000	242.3	0.514E 03	3.2	0.739E-02	1.8
37000	239.0	0.446E 03	3.0	0.651E-02	4.3
38000	240.9	0.387E 03	2.8	0.561E-02	4.5
39000	245.0	0.337E 03	2.5	0.480E-02	3.7
40000	251.0	0.294E 03	2.6	0.409E-02	2.3
41000	255.3	0.258E 03	2.9	0.352E-02	1.8
42000	258.4	0.226E 03	3.0	0.305E-02	1.8
43000	259.1	0.198E 03	2.9	0.267E-02	2.7
44000	259.6	0.174E 03	3.0	0.234E-02	3.5
45000	259.0	0.153E 03	2.8	0.206E-02	4.7
46000	258.9	0.134E 03	2.5	0.181E-02	5.6
47000	258.8	0.118E 03	1.9	0.159E-02	6.2
48000	264.0	0.103E 03	1.5	0.137E-02	4.0

Table 25--Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
49000	260.8	0.913E 02	1.0	0.122E-02	4.9
50000	259.0	0.802E 02	0.5	0.108E-02	5.1
51000	259.8	0.705E 02	0.0	0.945E-03	4.2
52000	263.8	0.619E 02	-0.3	0.819E-03	2.2
53000	261.9	0.546E 02	-0.5	0.726E-03	2.2
54000	261.7	0.479E 02	-1.0	0.639E-03	1.2
55000	258.3	0.422E 02	-1.1	0.569E-03	1.4
56000	254.3	0.370E 02	-1.6	0.507E-03	1.8
57000	252.1	0.323E 02	-2.2	0.443E-03	0.4
58000	250.9	0.283E 02	-2.5	0.394E-03	0.7
59000	244.6	0.247E 02	-3.1	0.353E-03	2.0
60000	239.4	0.215E 02	-3.8	0.314E-03	2.6
61000	236.6	0.187E 02	-4.5	0.276E-03	2.1
62000	232.0	0.162E 02	-5.7	0.244E-03	1.9
63000	235.7	0.141E 02	-6.3	0.208E-03	-2.1
64000	239.2	0.122E 02	-7.0	0.178E-03	-5.5
65000	237.1	0.106E 02	-7.2	0.156E-03	-6.4
66000	232.4	0.921E 01	-7.3	0.138E-03	-6.1
67000	225.3	0.795E 01	-7.6	0.123E-03	-5.0
68000	223.1	0.685E 01	-7.9	0.107E-03	-6.1
69000	227.1	0.590E 01	-8.0	0.906E-04	-9.4
70000	222.5	0.509E 01	-7.7	0.797E-04	-8.9
71000	228.2	0.438E 01	-7.3	0.670E-04	-12.3
72000	223.2	0.378E 01	-6.5	0.591E-04	-11.2
73000	224.5	0.326E 01	-5.4	0.506E-04	-12.5
74000	225.2	0.281E 01	-4.2	0.435E-04	-13.2
75000	225.2	0.242E 01	-2.5	0.375E-04	-13.4
76000	216.8	0.207E 01	-1.2	0.335E-04	-10.3
77000	210.6	0.178E 01	0.7	0.295E-04	-8.0
78000	211.2	0.151E 01	2.1	0.251E-04	-8.7
79000	211.6	0.130E 01	4.5	0.214E-04	-8.8
80000	210.2	0.111E 01	7.0	0.184E-04	-7.9
81000	208.7	0.946E 00	9.7	0.158E-04	-4.9
82000	213.6	0.809E 00	12.8	0.132E-04	-4.4
83000	223.8	0.694E 00	16.4	0.108E-04	-6.0
84000	232.1	0.599E 00	20.9	0.900E-05	-5.8
85000	238.3	0.521E 00	26.3	0.761E-05	-4.3
86000	239.9	0.453E 00	32.0	0.658E-05	-0.5
87000	238.5	0.394E 00	38.2	0.576E-05	4.6
88000	241.1	0.343E 00	44.8	0.496E-05	8.3
89000	245.5	0.299E 00	51.7	0.425E-05	11.5
90000	244.3	0.261E 00	58.9	0.373E-05	17.6
91000	236.3	0.227E 00	66.3	0.336E-05	29.3
92000	229.4	0.197E 00	72.3	0.300E-05	40.3
93000	217.5	0.170E 00	77.7	0.273E-05	54.8
94000	209.0	0.145E 00	80.0	0.243E-05	66.5
95000	200.9	0.123E 00	82.2	0.215E-05	77.5
96000	195.3	0.104E 00	82.5	0.187E-05	85.5
97000	189.8	0.829E-01	70.2	0.162E-05	92.5
98000	183.9	0.739E-01	78.7	0.140E-05	98.7
99000	178.8	0.615E-01	74.7	0.120E-05	103.0
100000	176.2	0.510E-01	69.7	0.101E-05	103.0
101000	179.1	0.423E-01	64.6	0.825E-06	98.3
102000	179.8	0.353E-01	59.6	0.683E-06	95.5
103000	184.5	0.293E-01	53.7	0.555E-06	88.4

Table 26—Pitot data, Eglin AFB, Nov. 20, 1970, 2329 GMT.



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	240.7	0.619E 03	-6.5	0.896E-02	-9.3
35000	246.3	0.538E 03	-6.2	0.762E-02	-9.9
36000	248.9	0.470E 03	-5.6	0.658E-02	-9.3
37000	250.5	0.410E 03	-5.2	0.571E-02	-8.4
38000	253.1	0.358E 03	-4.9	0.494E-02	-7.9
39000	257.2	0.314E 03	-4.3	0.426E-02	-7.9
40000	257.6	0.275E 03	-3.8	0.373E-02	-6.6
41000	260.3	0.242E 03	-3.3	0.324E-02	-6.2
42000	260.0	0.213E 03	-3.0	0.285E-02	-4.8
43000	259.2	0.186E 03	-3.3	0.251E-02	-3.4
44000	258.5	0.163E 03	-3.2	0.221E-02	-2.1
45000	261.4	0.143E 03	-3.4	0.192E-02	-2.3
46000	265.1	0.126E 03	-3.4	0.166E-02	-3.1
47000	268.6	0.111E 03	-3.5	0.145E-02	-3.1
48000	270.7	0.986E 02	-3.5	0.127E-02	-3.5
49000	271.1	0.871E 02	-3.4	0.112E-02	-3.6
50000	270.7	0.770E 02	-3.4	0.991E-03	-3.5
51000	269.8	0.679E 02	-3.5	0.878E-03	-3.1
52000	266.2	0.599E 02	-3.6	0.785E-03	-1.9
53000	259.0	0.527E 02	-3.9	0.710E-03	-0.0
54000	254.0	0.462E 02	-4.6	0.635E-03	0.5
55000	250.8	0.405E 02	-5.2	0.563E-03	0.3
56000	249.9	0.354E 02	-5.8	0.494E-03	-0.7
57000	248.1	0.309E 02	-6.6	0.435E-03	-1.4
58000	246.0	0.270E 02	-7.1	0.383E-03	-2.0
59000	246.1	0.235E 02	-7.7	0.334E-03	-3.4
60000	245.6	0.205E 02	-8.6	0.292E-03	-4.5

Table 26—Concluded.

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
61000	246.4	0.179E 02	-8.6	0.254E-03	-6.0
62000	244.9	0.157E 02	-8.8	0.223E-03	-6.8
63000	243.0	0.137E 02	-8.9	0.196E-03	-7.7
64000	239.7	0.119E 02	-9.4	0.173E-03	-8.1
65000	235.4	0.103E 02	-9.6	0.153E-03	-8.2
66000	229.3	0.895E 01	-9.8	0.136E-03	-7.5
67000	226.3	0.773E 01	-10.2	0.119E-03	-8.1
68000	220.8	0.665E 01	-10.6	0.105E-03	-7.8
69000	215.6	0.571E 01	-10.9	0.923E-04	-7.7
70000	209.6	0.487E 01	-11.6	0.811E-04	-7.3
71000	203.7	0.415E 01	-12.1	0.710E-04	-7.1
72000	198.2	0.351E 01	-13.1	0.618E-04	-7.1
73000	194.2	0.297E 01	-13.9	0.532E-04	-8.0
74000	191.5	0.249E 01	-15.1	0.454E-04	-9.4
75000	201.1	0.210E 01	-15.4	0.364E-04	-16.0
76000	198.7	0.178E 01	-15.1	0.312E-04	-16.4
77000	220.3	0.150E 01	-15.0	0.239E-04	-25.5
78000	224.5	0.130E 01	-12.4	0.202E-04	-26.5
79000	223.3	0.112E 01	-9.7	0.175E-04	-25.5
80000	227.7	0.967E 00	-6.6	0.148E-04	-25.9
81000	231.4	0.837E 00	-2.8	0.126E-04	-24.1
82000	231.7	0.725E 00	1.1	0.109E-04	-21.1
83000	224.3	0.626E 00	5.0	0.973E-05	-15.3
84000	216.2	0.538E 00	8.5	0.868E-05	-9.2
85000	206.3	0.459E 00	11.4	0.777E-05	-2.3
86000	197.9	0.390E 00	13.8	0.687E-05	3.8
87000	198.5	0.330E 00	15.8	0.579E-05	5.1
88000	201.7	0.279E 00	17.8	0.483E-05	5.4
89000	200.3	0.237E 00	20.0	0.412E-05	8.1
90000	197.9	0.199E 00	21.6	0.353E-05	11.3
91000	196.1	0.169E 00	23.5	0.301E-05	15.8
92000	193.8	0.142E 00	24.5	0.257E-05	20.2
93000	189.5	0.120E 00	25.2	0.221E-05	25.3
94000	189.0	0.100E 00	25.0	0.186E-05	27.4
95000	186.4	0.845E-01	24.2	0.158E-05	30.4
96000	180.7	0.705E-01	22.6	0.136E-05	34.9
97000	177.5	0.586E-01	20.4	0.115E-05	36.6
98000	175.2	0.485E-01	17.2	0.965E-06	36.9
99000	173.5	0.401E-01	13.8	0.806E-06	36.3
100000	170.7	0.331E-01	10.3	0.676E-06	35.9
101000	169.2	0.273E-01	6.1	0.561E-06	34.8
102000	173.4	0.223E-01	1.2	0.451E-06	29.1
103000	181.8	0.186E-01	-2.1	0.357E-06	21.2
104000	185.0	0.155E-01	-5.4	0.293E-06	17.5
105000	213.1	0.131E-01	-8.1	0.215E-06	1.5
106000	247.7	0.113E-01	-8.6	0.160E-06	-11.3
107000	279.5	0.100E-01	-7.8	0.125E-06	-18.9
108000	306.0	0.895E-02	-5.9	0.102E-06	-22.9
109000	328.7	0.807E-02	-3.3	0.856E-07	-24.8
110000	356.8	0.733E-02	-0.3	0.716E-07	-27.1
111000	388.5	0.671E-02	3.4	0.602E-07	-27.9
112000	403.0	0.618E-02	7.3	0.534E-07	-25.3
113000	410.0	0.569E-02	10.8	0.484E-07	-21.3
114000	412.5	0.526E-02	14.6	0.444E-07	-16.5
115000	421.0	0.486E-02	18.0	0.402E-07	-13.0
116000	435.2	0.449E-02	20.9	0.360E-07	-10.7
117000	450.3	0.417E-02	24.3	0.323E-07	-8.6
118000	465.1	0.389E-02	27.9	0.291E-07	-6.4
119000	478.1	0.362E-02	31.0	0.264E-07	-3.9
120000	489.3	0.338E-02	34.2	0.241E-07	-1.0
121000	496.9	0.317E-02	37.5	0.222E-07	5.1
122000	504.0	0.297E-02	40.1	0.205E-07	11.1
123000	506.8	0.278E-02	42.2	0.191E-07	17.8
124000	512.8	0.259E-02	43.2	0.177E-07	23.4
125000	516.0	0.243E-02	44.6	0.165E-07	29.4

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